

1911-1912

Johanna Rantoul⁷ = William Endicott

William⁸ Mary Elizabeth Charles⁹ Robert Henry¹⁰ et als

William^{2nd husband} Endicott⁸ = Annie Rand ^{John^{1st husband}} = Frederic Nurse (~~disappeared~~)

Clara (died) = Albert DeBouchy William = Helen Shaw (died)

Thomson (disappeared) Fred Nurse = Bessie Neal
Henry Ball = ^{1st husband} _{2nd hus.} Wainwright = Elsie Russell = Dorothy Quincy

Charles Endicott⁹ (died 1896) = Caroline Leach

Alice Rantoul (died spring of 1909) Charles (died 1902) Caroline "Grace" Edith¹²

Grace Endicott¹¹ = William Kendall

Edith Endicott¹² = Gilbert Newberry McMillan

Ellen Dyer Andrew John Endicott

Henry Endicott¹³ = Mary Hubbard Stone

^{Rantoul} Augustus¹⁴ ^{Henry} Henry¹⁴ ^{Thomson} Thomson ^{Hosier} Lawrence ^{Merion} Merion (engaged to Dr. ^{George Plummer} Howe)

Henry Endicott¹⁴ = Catherine Sears

Ellen Bacon William

3

Cambridge, Mass. to Shelburne, N.H.

1911
June 30

We, M. & I, took the 9 A.M. train at the North Station reaching Gorham N.H. at 5:20 P.M. just on time. The ride was a pleasant one - The Woodwaxen, Genista tinctoria, was in its glory, south of Salem, and the hills were one mass of golden yellow. As we left Salem I saw in the barren Convolvulus soil along the railroad track, a short way arvensis out of the station Convolvulus arvensis running along on the ground for a number of rods. It was in full (white) flower beyond Portland, many large fields were entirely given up to the orange Hubbard Hieracium aurantiacum, a beautiful display but a curse to cultivation.

Mr. & Mrs. McMillan were awaiting us in the automobile at Gorham and we had a short & pie to the house where Ellen, Andrew & John were ready to welcome us.

The same beautiful view surrounds the house and in the evening Jupiter, Venus and the crescent Moon hung over the mountains in the western sky. We retired early.

Shelburne, N.H.

1911
July 1

Clear, calm, warm -

We spent the day rather quietly as it has been quite warm. I sat in the piazza a part of the time, talking and enjoying the view. The usual birds are singing as before and I shall list them - It is pleasant to hear from the house wrens and Savannah Sparrows.

I found out last year from Mrs. Agnes Chase of Washington that the red root *Festuca* that grows abundantly in the field by the house is *F. ovina* L., var. *surinamensis* (L.) Koch. accredited in the Manual to "Mis. cont. 9a." So this P.M. I collected a number of specimens, as the plants are in good shape now and pressed them.

Festuca
ovina, var.
surinamensis

This P.M. Mr. Thur. McMillan & I went to Gorham for the mail, and other errands.

Some changes in the house since last year make more room. The hall clock, Elk head & horns, various pictures, and a very large number of books are now in Cambridge, and the piano is established in the dining room -

My blotter with the big press has been left here from Philbrook Farm and it is most convenient for the work I do here -

Sunday.

Shelburne, N.H.

1911
July 2

Clear, with clouds, calm with some wind, hot.

We had a very pleasant morning sitting a portion of the time on the piazza where it was coolest - I took a number of small Kodaks (2 1/2 x 4 1/4) of the first disappearing wooden horse with Ellen by + on it, of the pigs, and of Ellen standing in the field, and by the Cool Blue Spruce.

This afternoon Mr. + Mrs. McMillan, Ellen, Mr. + I auto'd to Philbrick Farm. We had a nice talk with Gus whom I was glad to see again. Margorie was at home and welcomed us. We, Mr. + I, saw Lawrence who is picking up after his operation for appendicitis by Rob Greenough two weeks ago. Lawrence had been quite unwell for a week and Rob Greenough was finally summoned. He came on June 17 and operated the same day immediately. The case was very urgent - Lawrence was cheerful and hopes to be up in a week.

Gus + I visited the Butter Bush. It is flourishing. Shoots as long as 20 inches have pushed out freely this season, and the plants are crowded with buds. One good strong shoot is coming up from the base of one of the stems. The plants could not be more vigorous - Gus thinks of taking up one plant and setting it out on the McMillan place. The only place will be the little part in front of the house.

We had tea at the Rantouls, Mr. + Mrs. R. Endicott + Mrs. Endicott. Nice time. Mr. Rantoul is just back from Norway. The evening passed here as usual, talking, reading, etc.

Shelburne, N.H.

1911
July 3

Clear, with some clouds, short rain storm with strong wind in the afternoon. Fairly hot day. The mercury quickly reached 90° on the back piazza and it remained above that all day. In the afternoon the same thermometer registered for a short time 98° - It remained at 96° for a good while. Great heat in Boston 102°
The situation is on a wood piazza under a wide top and against the house and in a good fair locality. It was 100° to-day in Gorham.

We staid in the house to-day, taking a run in the late afternoon in the auto to Gorham - We all went next M.

The heat has been intense and we were quite happy to sit in the house and read, write and talk. This morning I took some 4x5 pictures of John & Andrew with their tri- & bicycle - I also collected
Carex canadensis Sabbatia pallescens L.

" micabilis Dewey, var. tincta Fernald.

Dry, open field close to & west of the house. These two species are abundant -

This evening we spent most of the time on the west piazza, enjoying the evening cool and talking and watching the stars. Venus sank behind Mt. Hayes, the moon is about $\frac{1}{2}$ full and not far from Regulus and approaching the waning Jupiter -

We look for relief from this heat tomorrow the 4th of July -

From the piazza this evening twice, each time within a space of $\frac{1}{4}$ minute I heard from the Mt. Evans wood the full song of the Hermit, Swainson's & Wilson's Thrushes in succession.

1911
July 4

Shelburne, N.H.
The Glorious Fourth!

A fiercely hot day, 97° on the back piazza all the afternoon, well out of the sun. A drop in the evening -

Today has been remarkably hot and we have kept very quiet. This morning's Boston Herald that comes at noon calls yesterday an unprecedented day in Boston the official record running up to 102° . We staid about the house all day with the exception of two runs in the auto to Gorham -

About 12.30 P.M. Mrs. Endicott, Mr. & Mrs. Charles Rantoul and Endicott drove over from Philbrook's and we had a pleasant dinner. Ellen had painted pictures for each plate, a figure of a lady, each different, very well done and showing much originality. The afternoon was spent on the piazza.

This evening the extreme heat went and a cool breeze sprang up and from the piazza we enjoyed the moon with Jupiter close by it, and Venus with its near neighbor, Regulus setting over Hayes. An occasional rocket or Roman candle rose in the distance and from Gorham appeared a fire-balloon, as dangerous and criminal a proceeding as could be done.

Mrs. McMillan & I after supper examined the Euphorbia Cyp. Euphorbia in the field below the house. It is past fruit, having fruited Cyperianus not abundantly as Mrs. McKel's specimens of last June 24 show and is throwing out its vigorous later shoots. The plant has a very strong hold here -

1911
July 5

Endicott Farm, Shelburne, Vt.

Festuca ovina L., var. deurineseula (L.) Koch.

Photographed by me in the field west of
the house close to where I made the
collections July 1, 1911.



Shelburne, N. H.

1911

July 6

Hot morning, 95°; followed shortly after noon by a very heavy thunder storm with gale. Mercury dropped to 77°. Cloudy P.M., with rain in evening.

This morning we spent quietly on account of the heat, talking and reading and writing. Clouds began to gather about 12 o'clock. Heavy and ere long we could see that a heavy storm thunder storm was breaking in Gorham and over the big range. It gradually came west, thunder and lightning followed, a heavy wind sprung up and soon a scene followed. The grass in the field west of the house had been cut a couple of days before and it was all cocked - the wind took these cocks as if they were sheets of paper and they lay went rolling over the field as if flying through the air in a remarkable manner. Then came torrents of rain, whirling & beating against the windows till the storm passed and the air was cooled -

I read Mrs. P.M. 'Father and Son'. About 5:30 hr. Mrs. M.M. & I auto'd to Upper Gorham where we waited about half an hour for the train. At least four bees were singing exquisitely ^{scattering} on either side of us as we waited.

Miss ^{Wendwell} came on the train from Concord. She is to teach Ellen & Cecelia for a couple of months. The spur home in just 15 minutes.

We sat in the piazza in the evening talking and watching the lightning players in the west. I wrote today to Mr. J. Sage in regard to *Circlepis variegata* he sent me yesterday from ^{Portland} ^{Conn.} I examined it & put it in press.

Boston Herald July 7 1911 Friday -

HOURLY HEAT RECORD OF THE WEEK.

July 2-3-4-5-6-7

	Sun.	Mon.	Tues.	Wed.	Thurs.		Sun.	Mon.	Tues.	Wed.	Thurs.
1:00 A. M...	72	81	78	82	80	1:00 P. M...	93	100	102	95	99
2:00 A. M...	71	79	77	81	80	2:00 P. M...	94	102	104	92	100
3:00 A. M...	71	78	76	78	80	3:00 P. M...	96	101	100	91	101
4:00 A. M...	71	78	75	77	80	4:00 P. M...	95	99	97	90	99
5:00 A. M...	72	78	74	76	79	5:00 P. M...	95	97	96	94	97
6:00 A. M...	72	79	76	78	80	6:00 P. M...	94	95	95	92	95
7:00 A. M...	73	82	81	80	82	7:00 P. M...	92	92	91	90	74
8:00 A. M...	76	84	84	83	86	8:00 P. M...	90	87	88	88	78
9:00 A. M...	78	88	90	88	90	9:00 P. M...	87	85	86	87	76
10:00 A. M...	84	93	94	92	93	10:00 P. M...	84	83	85	85	
11:00 A. M...	88	95	98	95	95	11:00 P. M...	88	80	84	84	
Noon.....	91	97	100	91	98	Midnight....	82	78	82	83	

Shelburne, N.H.

1911
July 7

Clear, cool in shade, a little warm in sun, evening very cool, day calm -
70° at 1 P.M. - 58° at 9.45 P.M.

A most refreshing change has taken place in the weather and we are as cool as possible.

This morning Mrs. McMillan & I walked over to the pasture opposite the Rix house - I got Rosa gallica L.

About 1 ft. high in open, sunny pasture.
Panicum boreale Nash, temerense Vahl, imbecillum Asch. & Speg. imbecillum Scribn.
subvillosum Asch. (7 days after chase, Oct. 17, 1911)
Open ground, ^{rather} dry, sandy, sunny soil.

I have read at intervals to-day in "Further and Further" and am much interested.

This P.M. we auto'd to Philbrook Farm to call on Mrs. Rantoul.

As we were specimining along from the house Bob. White and were between Rattle River and John Wilson's we started up from the middle of the road two quail. They started up and fled into the undergrowth by the road. They were very close to us and I had good views of them. They fled freely and we raised the feathers on our heads as it fled. Mrs. McMillan saw them as well as I did.

This is a most important note -

This P.M. I took some snipe (4 or 5) in the bay field. We watched a forest fire on a spur of Insular. It was ^{apparently, the first, as usually} first seen in the evening?

We spent the evening for a while on the piazza. Cold drove us in -

Shelburne, N.H.

Aug 11
Aug 24

Under this date Mrs. McKellan writes:
"I met John Wilson this morning - he saw the quail a second time - there were five young 'about the size of robins' and his son, David, saw them up in the pasture after that."

Quail.

1911
Sept 9

Under this date Mrs. McKellan writes:
"John Wilson was rather indefinite about them (quail) but after having talked it over with David - David thought it was August 21 that he saw them in the upper part of their pasture (in front of their house). John Wilson himself had seen them a few days after we did."

The record is as follows: -
1911, Shelburne, N.H.

July 7 - Two Quail seen by Mrs. & Mr. S. M. McKellan & me, very near, in the middle of the road near John Wilson's, between his & Ely Green's houses. We ran suddenly upon them in the automobile. They fled through the trees by the road.

July 8 - Two Quail & three young seen by John Wilson near same place as July 7. ^{see note under 7-4-10. (3)}

July - a few days after the 7th. Two Quail and five young seen by John Wilson.

August - about the 21st. Two Quail seen in upper part of Wilson pasture in front of the house by John Wilson's son, David.

Shelburne, Vt.

1911
July 8

Clear cool glorious day - 64° at 8.15 A.M.
85° at 4 P.M.

This morning Mr. McMillan & I auto'd to
Gorham. I met Mr. Simpson who was just
returning from the fire. The large area was
fencing but Mr. Simpson said he had 20 men
up there and they had the situation in control.
He said that the fire was started by light
ning on the 6th. I also met Brainerd Bar-
bank whom I used to play with in 1866.
He told me that the White Pine by the
bridge over Mill Brook was cut down about
6 years ago by Mr. Hamlin who owned the
land just beyond the tree. My water
color by Miss Barrett of the old wooden mill
shows the Pine and also the Cause Bridge.
Mr. Barbank told me about the old First Mill
and later the Saw Mill that stood there.
A fire destroyed the mill - The site is still
visible. I met Mrs. Panton, Mrs. Endicott & Miss Bowen
in Gorham -

This afternoon I read, wrote some verses on
the wooden swain's colored bird I brought in Gorham
for Mrs. Endicott's birthday to-morrow, and later
Mr. & Mrs. McKim, Miss Wadswell & I auto'd again
to Gorham - I got my pictures taken
yesterday -

I wrote a long letter this morning to
Charlie Batchelder who sent me a very
nice letter from Peterboro.

The evening was spent chiefly on the piazza.
Festuca elatior L. Roadside Libby's Hill, Gorham.

Sunday-

Stellbourse, N.H.

1911
July 9

Clear with some haze, warm in sun
89° at noon. 85° at 5.30 P.M.

Today has been spent quietly in the
shade main of the piazza. I have
read considerably in 'Father and Son'.

Last night I killed a mouse in our
room. It was 6 in. long, the body 3, and
tail three, color slate above, quite white
below, including the ends of the feet,
ears very large. I have put it in alcohol
and sent an acct. to C. F. Batchelder.

Peromyscus
canadensis
Dun. & B. 1860

I saw today in the barn a meadow mouse,
Microtus pennsylvanicus dead.

We auto'd to Gorham this P.M.

Today is Mrs. McMillan's birthday.
At breakfast, when she appeared, resting
on her chair was a large oil painting
in gold frame of Ellen made some
years ago by Miss Charlotte Pierce's sis-
ter. Mrs. McMillan has bought it lately.
It is a full length portrait, the figure
sitting and holding an open book.
We are all very much pleased with it.

M. & I gave an Eveready Miniature
light such as we use at home.

There were other gifts. Mrs. Rantoul & I
yesterday in Gorham got each a neat
wooden bird made by the natives.
Mrs. R's was a Woodpecker ~~that~~ ^{that} ~~was~~ ^{was}
pecked - Mine was a curious creature
about which I wrote and read the following:

Shelburne, N.H.

1911
July 9
(2)

To Mrs McMillan on her birthday
The bird speaks -

On this thy happy natal day
I come to thee as a surprise.
You hardly dreamed that in your town
A bird so strange and curious flies

I'm new to science, new to you.
No bird like me was ever known.
I came to life quite recently,
On this your farm; see how I've grown.

I don't fly now, I do not walk,
~~I wisely stand and wag my head to~~
~~I lost one toe not long ago~~
And tail and body to and fro.

My striped legs and striped toes
My body black and eyes so blue
Blue-spotted wings, 3-forked tail
Proclaim the wonder through and through.

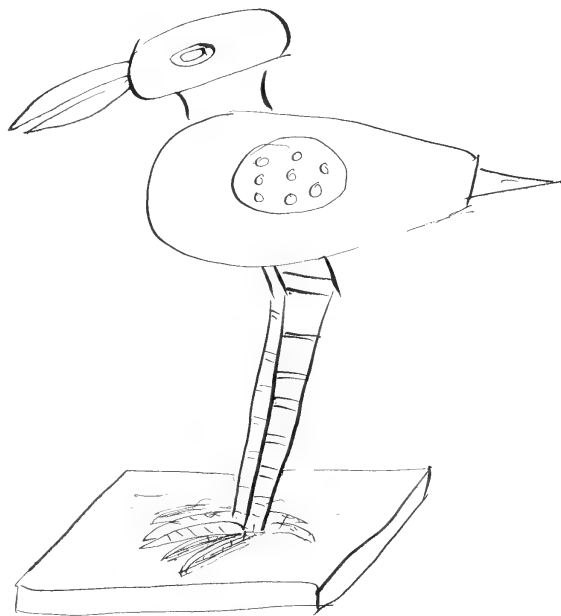
My broad flat bill lined red and black
With all that I have said before
Shows science something new to crack
Some birds not bound by any lore.

Stellburne, N.H.

1911
July 9
(3)

Let me always live, I pray you,
near to you, your patron saint,
Megascopus caudacutus
Call me ever, true if faint.

This means that I a sharp tail have
A bill that is so very big,
I bow before thy years so few,
Oh! will you dance with me a jig!



Shelburne, N.H.

1911
July 10
(1)

Trip to Bretton Woods

Rather lazy, hot, calm, 97° on the piazza at home here.

Today has been a splendid trip to Bretton Woods and while the day was hot the motion of air in the automobile made it very bearable. Mr. & Mrs. McMillan & I started from the lease and we picked up Judge Evans in Gorham. The trip round the big mountains was very lovely. The views are so wonderful all the way. We climbed Gorham Hill, went through Randolph past the Marine House and just as we drew near Jefferson Highlands we swung off into Jefferson Meadows and skirted Owl Head and at last reached the valley of the Ammonoosac River at the town Mt. Hope. We then followed the stream up past Fabians to the Mt. Pleasant, swung to the left on the river and brook intervale and stopped for the first time since leaving Gorham at the wonderful Van Washington Hotel. It was the occasion of the official opening and there were to be some ceremonies.

After inspecting the building with its long corridors, its magnificent ball room, its huge swimming tank, &c. &c. we descended with what we termed others on the front piazza. A band of a dozen or more ^{paraded in front} ~~concert~~ ^{of} ~~them~~ they are a body

Trip to Bretton Woods.

Shelburne, N.H.

1911
July 10
(2)

of men who will patrol the trails and surrounding country during the season to prevent fires, keep paths clear and the like. Cannon went off and finally there were speeches from Governor Bass, Ex-Governor Floyd, Quincy and Jordan after which the hotel was announced officially open. I was introduced to the above Governors excepting Gov. Quincy and I had a very pleasant talk with Bass and Floyd.

After this we had a most excellent lunch in the large dining room - Later Jack Elvans & I went into a large room called the Governors Room - The walls are completely hung with pictures of New Hampshire Governors from Gov. Jordan who officially opened the Hall Wallingford at its beginning in 1903, and has been at every opening since - There was a signature of Gov. Wentworth to a document dated 1770, Portsmouth, N.H. appointing a Colonel in the Revolutionary War - There a picture of Bretton Hall in England, the home of Gov. Wentworth - Bretton Woods was originally the name of the locality where the Mt. Washington is, and at the time of the opening of the hotel the name Bretton Woods was revived and applied to the community in that region - It is all in the town of Carroll.

— Trip to Bretton Woods. — Shelburne, N.H.

1911

July 10

(3)

We returned about 3 o'clock the same evening, making the trip in a little less than two hours both times. The distance from here to the Mt. Washington is about 40 miles - I took a few snaps at the Hotel.

The forest fires on Mt. Surprise that fire we started since 2 days ago made such a show Mt. Surprise about 3 o'clock that we went to Gorham in the automobile and took the Glen Road just beyond Libby's Mills where we had a wonderful view of the conflagration - The fire had reached the top of Surprise, which is a top of 13000 ft. Fortunately the growth is sparse on the rocky summit, but conservation suffers from all these fires and this one certainly cannot be called till the rains come. While we were watching, the full moon rose directly behind the mountain top, a huge lurid ball with the flames and black smoke playing over its surface. It was a very remarkable sight. We were gone from the house about an hour.

I might mention that the Foreman in these woods & places all dwell upon the life & energy of John Anderson the proprietor of the Hotel from its beginning till his death last spring.

Mr. John Wilson told Mrs. McKilliam yesterday that in the late afternoon of the day before, July 8, he saw near his house two

Quail

Shelburne, N.H.

1911

July 10

(4)

Ducail with three young - John Wilson Ducail is a perfect, reliable man. He too is an old resident of Shelburne - He saw the birds between his house and Ely Greenie's (always called Ely Green) at the same spot as near as could be made out, where we saw the two old birds on July 7. The country is sparsely inhabited, woods and fields bordering the road - This confirmation of what we saw is most interesting - John Wilson never saw Ducail in this region before and he has been here for many years -

G. M. Allen in his "Birds of New Hampshire, 1903, records its first in western N.H. He says, "A rather rare permanent resident of the transition valleys of southern New Hampshire." "During the summer of 1877, I thrice observed a single bird in the Saes valley at Intervale, though it is highly improbable that it was other than an introduced specimen which had been loosed in the neighboring region. I found of some having been observed in the locality before a few."

This is the only reference to the occurrence of the bird in western New Hampshire.

Shelburne N.H.

1911
July 12

Smoke from Maine fires, warm but comfortable
wind strong west - therm 90°.

The day has been quiet & pleasant.
It has been too warm to walk much, and
the piazza has been an constant resort.
The smoke in the air from the western
fires has shut out the big mountains for
most of the day. The fires on Surprise
have continued as usual and Gus told me
to-day there was a crew of men up there, costing
about \$200 a day and yet they can do but
little among the ledges - Rain is the only thing

This afternoon Mr. & Mrs. Walker, Mt. I auto'd to
Philbrook Farm and called on the family. We
saw all except Howard - Lawrence is still in bed
but improving daily. Gus told me that I was
right in saying that the Mount Washington
Hotel was not in Carroll, but in the Marie
and Sawyer location. I saw for a minute
Miss Shepard & Mrs. Converse. Then we went
up to the Sweeten Cottage and called on Mrs.
Lydicott & Mrs. Paulson. There is considerable
Potentilla fruticosa on the lawn by the
Sweeten Cottage and it is in flower and
it was in flower when I was there on
July 7. The spent the evening as usual.

Panicum tennense var.

(See Agnes Chase
Oct. 17, 1911)

I collected a small clump by the path
in shed, on Prof. Sweeten's land, leading up
from Philbrook's part to the road. Growing in rather
barren soil -
Tripsacis sativa L. rose of Park Promenade, by the house

Shelburne, N.H.

1911
July 13

Clear, cool, with fresh breeze. 72½° at noon.

The change in temperature is most refreshing. The wind has kept the smoke of the fires in Moriah away.

This morning Mrs. McMillan and I walked up into the woods on Mt. Evans. We had a real good time and went some way up the slope. The Magnolia Warbler with his peculiar song was there, and a Swainson's Thrush quite near us sang incessantly. I have never heard this Thrush sing so long so near. It was a treat. I collected a few plants - Home to dinner.

This afternoon I walked with Mrs. McMillan up Rattle River to the end of the piping that supplies the house. He is adding some more pipe and Frank Rix + his nephew were working there. I found Carex scabrata Schwein by the river and, in a wet place near by, in abundance. I walked on to near the so-called Brick Yard and back home.

Later we auto'd to Gorham for the mail. I had a very nice letter this morning from Dr. Charles Kinder of Laconia, N.H.

Evening party on the piazza, where it was too cool.

Panicum boreale Nash. Dry shady ^{places in} ~~border of~~ woods on ^{the edge of} Mt. Evans. { Pine Green Chase Oct 19, 1911.

Carex tribuloides Wablenb., var. redirecta Bailey }
" tenella Schkuhr }

Moist woods on Mt. Evans.

Carex scabrata Schwein. West border of Rattle River on Evans, ~~near the house, back of meadow.~~

July 12 - Miricaca saligna S.

Shelburne, N.H.

1911
July 14

Clear, pleasant breeze, mercury about 81° at the hottest time. Wind west as it has been most of our visit.

This morning we were much of the time in the piazza. Mr. & Mrs. Charles Rantoul & Endicott called this morning on their way to Gorham, where Mr. R. & Endicott take the train for Caspog, N.Y. to go down the St. Lawrence to Anticosti - Mrs. R. returned here and staid to dinner and most of the P.M. Ellen cut the sole of her foot on a nail while bathing to-day and is in the bed.

This morning I spent some time in taking photos of Ellen's portrait, Ellen, Andrew, Mr. & Mrs. McNeillan. I left the films at Storey's this P.M. We took Mrs. Rantoul back home and then went to Upper Gorham & Gorham. From Gorham we could see the progress that the fire has made on the Moraine range - It is still burning and the area covered is now large. The west wind has kept the air clear here.

We go back to Cambridge to-morrow morning - I got the few plants I have collected packed and in the trunk.

I heard a House Wren this P.M. at John Head's House Wren.

Shelburne N.H. to Cambridge, Mass.

1911

July 15

Sun bright and rather warm today.

This morning we left the house at 8 A.M. with Mrs. McMillan, Anderson, and I went to Shelburne Station where we took the 8:30 train reaching Boston at 3:30 P.M., making no stop in Portland. We took a beautiful lunch with us. As the train left Lockes Mills we passed a shallow muddy pond covered with Nymphaea microphylla Pers. in full flower. At Cumberland store was by track in abundance Trifolium procumbens L. I read with much interest 'How Valmond came to Pontiac' by G. Parker, lent me by Mrs. McMillan, and finished it this evening.

We came out from the North Station of East Cambridge and we were astonished to see how the elevated road has progressed. It reaches from the Station on Charles River.

We find the good people at 31 well and happy. They have stood the heat extremely well. We took tea with them this evening and recounted Shelburne stories.

I collected and brought with me

Panicum	12	sheets	} 61 sheets -
Festuca el.	5	"	
" o. or.	20	"	
Carex	17	"	
Misc	7	"	

Shelburne, N.H.

1911
June 30
July 15
(1)

List of birds, all of Shelburne, unless otherwise noted.

- 1 Great Blue Heron 4^c seen from piazza.
- 2 Bob. White 7^o road between Rattle Run & John Wilson's See Journ.
- 3 Marsh Hawk 6^f
- 4 Black-billed Cuckoo 3' 10' at night
- 5 Kingfisher 11^c over front lawn.
- 6 Swift 30^t 1^h 4^h 6^h 7^h 20^s 8^s Gosham
- 7 Downy Woodpecker 10'
- 8 Flicker 1' 7'
- 9 Kingbird 5^o 4^c 5^c 6^c 10^c 6 Gosham to Swetten Woods 12^s 14^s
- 10 Phoebe 1' *
- 11 Crow 30^t 1^h 2^h 3^h 4^h 5^h 6^h 7^h 8^h 9^h 10^h 12^h 13^h 14^h 15^h ^{about 30}
- 12 Bobolink 10' Jefferson meadows
- 13 Purple Finch 1 or 2 in quantity on the place daily
- 14 House or English Sparrow 6 or 12 seen in Gosham on the 11th, 5th, 7th, 8th. 6^h station
- 15 15^h. There are probably a dozen about Shelburne station as last year.
- 15 16 Gold Finch 1' 3' 4' 5' 6' 7' 8' 9' 10' 11' 13' 14'
- 16 17 Vesper Sparrow 4' 5' 2' 6' 7' 10' 12' 11' 12' 15'
- 17 18 Savanna Sparrow * at intervals in the field by the house from 30th to 15th.
- 18 19 White-throated Sparrow 5' *
- 19 20 Chipping Sparrow from 1 to 4 almost daily from 30th to 15th.
- 20 21 Field Sparrow 30^t 11^{am} 2^o 3^o 4^o 5^o 6^o 7^o 8^o 9^o 10^o 12^o 15^h
- 21 22 Junco 5' 8' 10'
- 22 23 Song Sparrow 30^t 3' 4' 10' Swetten Woods 13'
- 23 24 Indigo Bunting 6' * in 'The Poppars' * seen in pasture opp. Rice house 11' * all day 20' * mid. of the house. 7' P. place 12 14'
- 24 25 Eave Swallow 2' 8^h Gosham 100 or 200 on telegraph wires. 10 Gosham to Swetten Woods.
- 25 26 Barn Swallow about 6 on the place daily. 10 about 100 Shelburne to Swetten Woods. on telegraph wires.
- 26 27 Bank Swallow 2' near R.R. Sta.
- 27 28 Cedar Bird 10' near the house.

Sulbourn, Vt.

1911
June 30
July 15
(2)

- 28 Red-eyed Vireo 1 or 2 singing daily, heard from piazza.
- 29 Myrtle Warbler 7^{*}
- 30 Maple " 13^{*} woods of the barn
- 31 Chestnut-sided " 2^{*} 5^{*} 6^{*} 7^{*} woods back of barn in each case.
- 32 Ovenbird 2^{*}
- 33 Maryland Yellowthroat 1^{*}
- 34 House Wren 8^{*} ^{Lilly & Sons Company} mills 14^{*} at 7th Street.
- 35 Chickadee 7^{*}
- 36 Veery 1 to daily in 'The Birches' the large clump of woods n.e. of house.
1 or 2 heard frequently elsewhere in woods near the house. On the 6th 4th were heard in full song in Upper Gorham.
- 37 Swainson's Thrush 1^{*} in woods s. of house on slope of Mt. Evans on the 2nd, 3rd, 5th, 7th, 9th, 10th, 11th, 12th, 13th, 14th, 15th. The songs were probably made by two birds in two different localities, though we never heard the two sing up at once.
- 38 Hermit Thrush 2^{*} ^{woods on Evans} 3^{*} ^(4th 1st in grain) 5^{*} ^{woods on} 14^{*} ^{back of} barn 15th 20th
- 39 Robin 1 to 6 daily
- 40 Blue Bird 3^{*} ^{Graham} 8th 20th

Last year during this same period I observed 45 species. The extreme hot weather during this season kept us much at home and much less observation was done.

Canal Zone Panama

1911

April 17-21 List of plants collected April 17-21 1911

(1) by Mrs G. V. McNeillan and identified by me with the valuable help of Dr. E. K. Robinson at the Gray Herbarium July 18-21, 1911.

- 1 Gymnosporium calomelanos ^{Balboa April 17} _{Gatun April 21}
Hab. Mexis, So. Amer., Afr. & Polynesia
- 2 Cenchrus multiflorus Presl ^{Balboa April 17} _{Pedro Miguel, April 20}
Hab. S. Mex. on the Pacific coast.
- 3 Paspalum paniculatum L. ^{Balboa, April 17.}
Hab. S. Mex., Panama, Colombia, Peru, W. I. & Trop Afr.
- 4 Valerita insularis (L.) Chase. ^{Balboa, April 17}
Hab. n. & s. Mex., Micronesia, Panama, S. Amer. & W. I.
- 5 Cyperus ferox Richard? ^{Pedro Miguel, April 20}
- 6 Alternanthera sessilis Walt. Brown ^{Gatun, April 21}
Hab. Common trop. S. Amer. & other countries, it is likely to occur. Walt. in Koenigsberg's work. He says
- 7 Telanthera polypodioides ^{→ Balboa, April 17} _{Culebra Cut April 19}
Hab. S. Mexico, Panama. Common in W. I. & e. S. Amer.
- 8 Telanthera pusilliflora Moq. ^{Cincin April 20}
Hab. S. Mex., Panama, Peru.

Canal Zone, Panama.

1911? Portulaca oleracea L.

April 17-21

(2)

Hab. nat. of Eur. - widely distributed in tropical and subtropical regions, both in the old world and America, including Mexico & Centr. Amer. - New Eng. weed

Gatun Cifer. 21

10 Clitoria glycinoides DC.

Miraflores April 20

Hab. Panama, W. I. & Trop. S. Amer.

11 Desmodium adscendeus DC.

Gatun. April 21

Hab. Nicaragua, Panama (Chagres), W. I., Colombia to Guiana & Brazil, w. trop. Afr.

12 Desmodium incanum DC

Culebra Cut, April 19

Hab. Comm. in W. I. & E. Trop. Amer., also in trop Afr. & Mauritius, Nicaragua, Costa Rica, Panama.

13 Vigna vexillata Benth.

Miraflores April 20

Hab. Mexico, Guatemala, Nicaragua, Panama. Comm. in trop. Amer. & tropics of old world.

→ 15 Cephalorbia rubroasperma Lotzky.

Specimen left

Gatun, April 21

Santa Rosa, Guatemala, ^{type} rare Gray Herb. XX, 349. Bot. Gaz.

16 Sida spinosa L.

Gatun. April 21

Hab. America, Rem. to Karstvedes, W. I., S. Mex., Panama - tropics.

17 Cuphea near micrantha HBK. trop fragmentary

Gatun, April 21

18 Caslepias curassavica L.

Gatun, April 21

Hab. Comm. in Mex. & Centr. Amer. & nearly all warm countries. Fla., Louisiana.

Canal Zone, Panama

1911
April 17-21
(8)

19 Pomacea batatas Lam (Sw. & Potato)
Culebra Cut, April 19

Specimen in Gray Herb., Gatum. Cal., 1859.
Origin of species unknown.

20 Pomacea or Thyella sp.
A single specimen in Gray Herb. Label reads
"Plantae Venezuelanae. no. 944. Prope coloniam
Tovar legit A. Fendler, 1854-5. near
Guigues" On the sheet in pencil probably
by Hooker is written "Thyella sp" there
is no specific name
Culebra Cut., April 19

21 Heliotropium indicum L.
Balboa April 17
widely dispersed in Trop. & subtrop. countries, including Mex. & Central Amer.
Hab. Honduras in Amer. fr. old world (A. Gray); Indigeneous in Amer. (Missbach)

22 Solanum Fendleri van Hook & Müll.
Gatum, April 21
Hab. Panama (Chapres, Feb., near 1850, A. Fendler, no. 254)

23 Blechnum brownii Fuss.
Side of Culebra Cut, April 19
Hab. Mexico, Guatemala, Honduras, Panama, S. W. Ecuador & W. I.

24 Momordica charantia L.
Gatum, April 21.
Culebra Cut " 19
Side of " " " "
Dero Miguel " 20
Hab. Common from Mexico to Brazil

24 Schrankia leptocarpa DC.
City of Panama April 20
Hab. Panama, near the city of Panama, Com. Trop. Amer. Java.

Canal Zone, Panama.

1911
April 17-24
(4)

25 Eclipta alba (L.) Hassk.

Gatun, April 24

Native of the tropics. Introd into New Eng.

→ 26 Eupatorium microstemon Cass.

Culebra Cut, April 19

Hab. n. & s. Mex., Honduras, Venezuela, Colombia.

Peru, Jamaica

→ 27 Melampodium dicaricatum (Rich.) E. & C.

Barboza, April 17 Specimen left.

28 Melanthera aspera (Jacq.) Steud

Hab. n. & s. Mex., Guatemala, Nicaragua, Panama (Empire railway station S. H. Hayes, 5-15).

Culebra Cut, April 19

Hab. S. Mex., Guatemala, Nicaragua, Costa Rica, Panama, W. I., & n. part of S. Amer.

29 Tidax procumbens L.

Cincin, April 20

Hab. n. & s. Mex., Yucatan, Guatemala, Nicaragua, Panama, old walls about the city of Panama (S. Hayes, 692), n. pt of S. Amer. & W. I. - naturalized in India & Mauritius.

30 ?

Tracing - leaf smooth



Ricked close to the ground -

Culebra Cut, April 19

Numbers checked were presented to the Gray Herbarium, February 28, 1912.

Bog Walk, Rio Cobre, near Kingston, Jamaica.
(EX cap. at H. Kingston #10, St. Andrew).

1911

April 17-21

(5)

List of plants collected by Mrs. G. McMillan
April 15, 1911 and identified by me with the
ones from Panama, with Dr. S. R. Robinson's aid at
the Gray Herbar. July 18-21, 1911,

- 1 Pitcairnia bromeliacifolia L'Her.
Hab. Jamaica, Cuba to Venezuela
- 2 Bougainvillea sps. Kingston
Hab. A half dozen or more spp. of S. Amer
shrubs. Many introduced into warm countries
- 3 Centrosema virginianum Benth.
Hab. Bahamas, Jamaica, Antigua, Dominica, St.
Lucia, Virginia, Ala., Fla. Transported trop Amer
to Rio Grande do Sul, Brazil
- 4 Tribulus cistoides L. Kingston
Hab. Jamaica - trop sections of all countries
- 5 Lantana Camara L.
Hab. Jamaica, common; Dominica, St. Vincent,
Trinidad, Cuba & Mex. to Buenos Ayres.
- 6 Lantana involucrata L.
Hab. Bahamas, Jamaica, Cuba to Guada-
loupe - Panama -
- 7 Stachytarpheta jamaicensis V.
Hab. Bahamas, Jamaica, Antigua, St. Vincent, Trinidad,
Cuba to Brazil. Nat'd in Afr. & Asia.
- 8 Spermacoce tenuis Lam.
Hab. Jamaica, a weed, Antigua, Trinidad, Cuba & Mex. to Brazil & Peru.
- 9 Bidens Leucanthus W. Bog Walk
Rio Cobre,
near Kingston
Hab. Jamaica (all collectors), a common weed; Antigua, Trinidad,
Fla., Cuba, Mex. to Brazil & Chili; Pac. Isls. to trop Australia, New
Zealand & S. Y., Madeira. w. Afr. to Cape.

Panama, and Kingston, Jamaica

1911
Apr 15-21
(6)

Panama plants by orders
no. of species-

	Polyposiaceae	1	
	Gramineae	3	
	Cyperaceae	1	
	Amarantaceae	3	
	Portulacaceae	1	
	Leguminosae	5	
	Euphorbiaceae	1	
	Malvaceae	1	
	Lythraceae	1	
	Clepeidiaceae	1	
	Convolvulaceae	2	
	Boraginaceae	1	
	Solanaceae	1	
	Cucurbitaceae	1	
	Compositae	5	
16	Acanthaceae	1	Total 29

Kingston Jamaica plants by orders.

	Bromeliaceae	1	
	Nyctaginaceae	1	
	Leguminosae	1	
	Typhophyllaceae	1	
	Verbenaceae	3	
	Rubiaceae	1	
7	Compositae	1	Total 9

Grand total 38 sps.

There are two more species too fragmentary to place at all -

Jamaica, and Kingston, Jamaica.

1911

Apr. 15-21

(7)

The works of importance used in determining these plants are:

Fiera of the British West Indian Islands -
A. H. R. Erisebach - London - 1864.

and

Biologia Centrali-Americana by
F. V. Godman and O. Salm -
Botany by W. B. Hemslley
Vols. I, II, III, London, 1879-1888,
large 8vo.

Trip to Marblehead, Mass.

1911
Aug. 30
(1)

Cool, cloudy most of the day, the sun breaking out and shining brightly for an hour or more in P.M.

M. & I took the 10.25 A.M., via Salem, for Marblehead, arriving there at 11.07. We were to lunch with Mrs. George Sheffield & Mrs. Edw. Weyman. Mrs. Sheffield met us at the station and we drove in rather an antique-looking vehicle to the New Fountain Inn where our friends are staying. Mrs. Weyman welcomed us. The Inn is situated directly on the Harbor and quite a height above the water. The piazza and roof garden give uninterrupted views over the entire harbor. It is very beautiful indeed.

The water is dotted with boats of every description, many at anchor and many skimming about.

We four soon started off and walked to the famous Lee House. My post cards give an idea of the house without and within.

It is a splendid relic of Colonial days.

The following inscription hangs in the front hall:

"This building ^{was erected} by Jeremiah Lee, one of the Committee of Safety, in 1768, the material being brought from England. He lived here only seven years and died from the effects of a cold taken at Lexington in escaping from the British Sep 17, 1775, dying in Newburyport May 10, 1775. Chief Justice Sewall purchased it from the estate of Jeremiah Lee and sold it in 1804 to the Marblehead Bank. The Historical Society bought it from the Marblehead National Bank July 2, 1904."

Trip to Marblehead, Mass.

1911
Aug. 30
(2)

The hall in the center of the house is of magnificent proportions running the whole length of the house and being 15 ft., 10 in in width. On the right a handsome staircase runs up on a very gradual slope, the stairs being 6 ft. 11 in. wide. The large banquet hall on the left part of the ground floor retains its heavy panelling and wood carvings and is 25 ft. 6 in. long, 20 ft. 8 in wide and 10 ft. 8 1/2 in. high. The proportions are fine. The large kitchen in the back has an enormous brick fireplace that I measured 6 ft. wide. I stepped in and could see the sky through the chimney top. The house contains a large number of rooms, a few being furnished with old furniture adapted to the period, there being no original furniture in the house when the Historical Society purchased it. Much of the original wall paper remains in the hallways, but on the ground floor of the hall a very small piece remained. This is framed and hung up, while the walls are repapered with a paper made to imitate the original.

The contains three stories and a large part all of which we went over. We even ascended to the cupola on top which affords a fine view. I purchased a number of cards from a good store of the house and we felt well repaid for our visit.

On August 17, 1901, we visited the Old Town Hall and St. Michael's Church -

Trip to Marblehead, Mass.

1911
 Aug. 30
 (3)

We then returned to lunch in a very pleasant and studded room to resemble a ship's cabin. Then we visited the piazzas & sun parlor and roof garden most attractive spots, commanding beautiful views over the bay.

Later we went on board the ferry and took two circuits, enjoying the fresh breeze and sun and blue water and the many boats and the pretty houses on the shore. Then Mrs. Sheffield, Mr. & I took a walk through a portion of the old town, with its quaint, narrow winding streets, little old-fashioned many of them hip-roofed houses, dropped down anywhere, with small attractive gardens connected with them, some containing but a few square feet. The flowers were in splendid condition as seems to be the case in the sea-side - Dublin, Phila, Helianthus annuus were everywhere, and almost every garden had an abundance of Kochia Scoparia which I think very attractive both in its green and its crimson state. I saw a fine hedge of Polygonum cuspidatum covered with its panicked white flowers.

We visited Abbot Hall and saw the original painting of "Yankee Doodle", the Spirit of '76"

Returning to the Inn, after a short rest, we bade Mrs. Wymann good-bye, and with Mrs. Sheffield walked back to the Station (1/2-3/4 m.) where we took the 5:35 train, via Salem, reaching home by about 7:20 P.M.

Kochia Scoparia (L.) Schrad. Roadside in old town, Marblehead.

Trip to Marblehead, Mass.

1911
Aug. 30
(84)

In the large banquet hall are hanging in the Lee House two photographs, one of Jeremiah Lee and one of his wife. Under the first one is written -

"Jeremiah Lee of Marblehead. Born April 1721: died May 16, 1775: member of the Provincial Congress of Mass. of Feb. 1, 1775, and of the Committee of Safety - From painting by John Singleton Copley, '1769"

Under the second one is written -

"Martha (Swett) Lee, wife of Jeremiah Lee of Marblehead" It also states that it is from a painting by John Singleton Copley.

These two original oil paintings are at the Boston Art Museum -

Visit to Rittery Point, Macae.

1911

Sept. 2

(1)

Mr. + I took the 10.25 AM. train at the North Station to spend a couple of days with Roland Claxton + family - The day was bright and the sun shining beautifully - We reached Portsmouth at 12.20 and then waited there a half hour - At Rittery Point the electric car was late and then broke down, so that we found when we reached Sea Point Station that Roland had been waiting some time for us - We walked together to the house about 2 P.M. Betty + Edmund were here and we soon were sitting down to a hearty dinner -

We have the same room as on July 17-19, 1909, the one over the park - Everything looks as it did before and we did enjoy sitting on the piazza and drinking in the view from over the water - Later Roland + Edmund + with Mr. + me walked through the woods, visited the Maiden Hair, the old mill, and Roland collected some *Hypomyces repandum*. The wood is full of a great variety of fleshy fungi - *Usteria macrospora* is a carpet under the trees and *Helveticus strombus* is very abundant - I saw a splendid specimen of *Coralia racemosa*. We walked on to Harbor Hill and sat down on a log at the head of the beach and enjoyed the waves and breezes -

Later Roland showed me a number of his ferns, apples and *Helinia rugosa* on *R. Pterocarya* - We walked over the vegetable garden and the number of varieties I will list: -

Visit to Kittery Point, Maine

1911
Sept. 2
(2)

Common Raspberry, Schaffer Raspberry, Blackberry, Huckleberry, Currant, Grapes, Plain Tomatoes, Peach Tomatoes, Beets, String Beans, Lima Beans, Chard, Egg Plant, Marrow Squash, Watermelon, Corn, Peas, Lettuce, Asparagus, Potatoes, Mint, Cauliflower -

The Apple and Pear trees are a large feature of the place.

Trailing over other plants by the front door is the level Canary in full bloom. I have seen it before and there is no other way a stand it have it at home.

Miss Betty possesses a fine collection of various ferns and plants. She has a very good one of the fern that I found not a year till to be used in and a lot of supper. The soup contained species *campanula* + *Fungus* etc. The vegetables are always fresh from the place and are delicious.

In a fine (Kittery) old house from the type which is existing to the still. We had a nice quiet time and all other things.

On the way back in the electric this afternoon as we passed by the marshes I saw a Herring Gull, and a Kingfisher flying and in one marsh a Great Blue Heron standing so like a stake of a brown color in the peculiar light that I at first mistook it. It was a good instance of protective coloration. Thus the *Thaxter* (Cattermole) are in Europe. Roland has got over his true operation unsatisfactorily.

Trap w/ Litter, Point, Maine.

1-11
Sept 3
(1)

After a sound sleep we were up w/ a hearty
o'cious breakfast and a little later Roland & I
went off for a walk. Before breakfast we walked
down to his brother John's to get the milk
and cream. Roland is always up very early
and I found him working in his garden
before breakfast. He was trimming out the
old canes from the raspberry bushes.

After breakfast we took the electric for a
very short distance and then walked over
a bridge on to Gevish Island, immediately
entering the woods. It was so shady and
cool and fresh and after this long wet weather
the fresh fungi were extremely abundant
and I was so interested in getting information
from Roland as to the various kinds. He was
willing to promise me in the woods and
the tide was very low and we turned in
for a different section in woods.
We had some theories that I will describe
later. Our destination was the house of
Mr. Jensen and his kind would be
please the folks for his permission who is
unwell. We found Mr. Jensen and I
had a nice talk with him. He is a
Harvard '77 man and is very jolly. His
place commands a fine view of the
ocean and the mouth of Portsmouth Harbor.
On the return through the woods and
the sea and at Sea Point Beach a line
of light, extending in the way. Our walk was

Exp to the Sea Point, Maine

1911
Sept 5
(2)

at 5 1/2 miles long road I enjoyed every bit of it and felt just like walking. This is a most pleasing contrast to the past two months in a matter of weeks I will like to see just how I did and how I did: ---

Boletus americanus

" *curiosus*

" *chrysoenterum*

" *scaber*

" *ovulis*

Boletinus pictus

Polyporus sp. sunny white

Russula emetica

Cantharellus cibarius

Cyranita muscaria & "*foetida*"

Lactarius sps with *Hypomyces lactifluorum* in it

Lenzites sps

Clavaria sps white

" " yellowish

Lycoperdon sps

We saw many more the names of which did not occur to Roland -

This afternoon we sat on the piazza, read and talked and later I walked over to Sea Point Station and met her who came over from Park Field Hotel when she had been to call upon the Klapps & Williamses who were there. Later I met a Prof. Picard of Missouri who has a cottage near by.

This evening we had more "type" reading by Roland in the sitting room -

The moon shines brightly & shines on the water

Trip to Kittery Point. Mass.
Kittery Point to Cambridge Mass.

1911
Sept. 4
(1)

This morning and the whole day was as fine as yesterday, air fresh and cool - Roland was quite busy this morning with some work and I walked some in the woods by myself and down to the rocks near the house, overlooking the ocean - I collected *Elymus* in rich woods and I found *Vicia conopsea* very abundant in the grass east of the house in full flower. This was due to the long wet weather. Edmund joined me on the rocks with his little friend, daughter of Prof. Picard who has taken a nearby cottage. We looked up sea urchins, crabs and the long sea weed in the pools left by the tide and I saw what I feel sure was a Pigeon Hawk on a dead tree nearby - I also read some in the 'Good Highway' and I must get it & read it - Edmund & I walked to Sea Point St. to meet Selby & the wife.

After dinner Roland & I walked on the ridge east of the house to see the view. There is a very broad sweep of the horizon over the ocean and we had the whole light, blue near light, the light with a haze of shores. In the evening the various clouds light are visible also. We examined a few plants and inspected the cranberry bog where Roland put his winter supplies.

Edmund & I bade good bye to Mr. John Treacher who came over in the morning -

Kittery Point, Me. to Cambridge, Mass.

1911
Sept 4
(2)

At 3.45 P.M. Robert, Betty, m. & I walked over to Sea Point Station. Edmund, rode with us there. We made goodbye and took the electric car, Betty accompanying us as far as Kittery Point Station - There we met Bertha Klapp whom I have not seen for some years. We took the train straight for Boston, (4.27-6.45 P.M.) arriving at 7.07. owing to the crowd of Labor Day - Our 7.20 train to Cambridge was 3/4 hr. late in starting - At Boston Station I phoned Sullivan to come for us and at 9 P.M. we reached home safe & sound, if a bit tired & ready for copper.

The trip was a most successful and enjoyable one in every way. We were of course very sorry that Miss Jewison was unwell. I did not see her here -

I collected a few plants and took them home in my dress suit case. We took us trunk. Elymus virginicus L.

In rich soil in shade in woods back of house
Leucaena intermedia Rydb., var. juniperina (Zinnell) Robinson. } Fin. C. L. Robinson
Sept 7, 1911

Abundant in grass on ridge east of house.

Solidago

Rocky soil among bushes just above the woods on the side west of the house. A number of plants seen in a small area.

Solidago aspera Nutt. & S. sempervirens L. seen.

Phragmites communis Trin.

Several plants in the cranberry bog - The specimen I took was 7 ft. high.

Trip to Kittery Point, Maine.

1911

Sept 2-4

I observed the following birds at Roland Thayer's or within couple of miles of his place -

1. Barn Swallow 2 or 3 near the beach
 2. Chickadee 2 or 3 heard
 3. Red-eyed Vireo heard whining
 4. Goldfinch 2 or 3 seen or heard.
 5. Crow numerous - On the 3^d an immense flock was screaming over the woods where we were working

6. Flicker heard 2 or 37. Wood-Pewee heard 2 or 38. Night Hawk Saw one on the 3^d flying9. ^{Sparrow-shinned} Vesper Hawk. This bird was perched on a rather low, dead tree on the shore east of the beach. From his general appearance and shape as he flew I identified him without my glass.

10. American Red-eyed Hawk (I have thought this a Vesper Hawk, but on consultation with W. B. Sept. 1911, he examined several in Sept. 1910 and apparently coming into a more varied species for Vesper Hawk makes this a Red-eyed Hawk)
 We identified this bird ~~as a Vesper Hawk~~ at Sea Point Station by his large size, his rufous color and the marked, whitish base of tail - Sept. 3. (Doubtful, W. B. Sept. 1911)

11. Broad-winged Hawk

We saw this bird flying near the shore. It was evidently a small Buteo - Spt. 3

12. Red-shouldered Hawk

Two large Buteos were soaring rather low over a large barn on Ferris Island. They might have been Red-tailed Hawks. On the side of Mr. Elley Jewett's barn near by were taken two wings of a Red-shouldered hawk near there -

13. Osprey

A number flying over the water or sitting in the water

Visit to Ipswich Mass.

1911
Sept. 16
(H)

With the air clear and the sun bright, M. & J. drove to Porter Station and took the 2.48 P.M. train to Boston, leaving there with Will Brewster on the 3.30 train for Ipswich. Between Newham and Ipswich the wet places were yellowed with Sidaea trichosperma (Munz) Britton, more commonly known as Corodopsis trichosperma Michx. Charlie Townsend whom we were to visit was unable to take our train. We reached Ipswich at 4.25 and drove to the Townsend House where the family all greeted us cordially, Charlie arriving about an hour later. Gertrude, Margaret, Frances & Charles all were there.

The drive of a good three miles is very pleasant. As we approached Ipswich in the train we ran into fog and it was quite thick as we drove to the house - Aster novae-angliae L. and A. laevis W. were very abundant by the road and very beautiful while the Canadian Burnet (Sanguisorba canadensis B.) was very frequent in damp places and in full flower. We have previously visited the Townsends in Ipswich (Aug. 27-31, 1903 and Sept. 10-12, 1904) and on these occasions I fully described the place. It was still just as beautiful though the heavy fog shut us in pretty well. M. & J. had the room over the dining room, north-west corner and were most comfortable. We had our suit cases open, as when we went to Colcord Thayer's two weeks ago. The house of the specimen forming a sheet was in the house, under the name of the field.

Upswice, Mass.

1911
Sept. 14
(1)

Heavy mist fog, occasionally letting up a little, coming, clear -

The foggy day has been unfortunate, but we had a delightful time in the same. After breakfast Charlie, Will & I started on foot in the same old shoes. I had on an old skin jacket. We had a nice walk with a good view of the salt marshes. We visited the immense crane state on the hill at the head of the beach and met Mr. Coover. He owns an immense lot of land and contains places buying up practically all the sand dunes and beach again and making a use of it - We walked some distance on the beach, but the fog was too thick and wet for much observation. A few Herring Gulls flew over, appearing and disappearing again. In a sand bar that stood out some distance off the beach there was just visible a band of some two dozen seals that Charlie says inhabit that region. I could barely distinguish with my binoculars the different individuals for the mist was thick, the glasses quickly cloudy. We sat for some time on the sand discussing features of bird flight and the water and then strove across the dunes that strange form seen last I have described on my former visit. While the prevailing vegetation on the dunes is Beach Grass (Ammodendron

Essex, Mass

1911

+ 217
(2.)

in area (2, leaf, and Hudsonia tomentosa with some vines & shrubs and various plants found here and there - I gathered a couple of specimens of a brown, filled woodstool in the pine sand that I am interested to know about. Between the dunes and the salt marsh behind there was a forest about acres of Panicum virgatum L. its tall, spreading panicles looking very handsome - We strolled in part the marsh and both the wood-bone. We had seen almost no birds, the general fall air an easterly storm - However we had a picnic in the trees, returning in time for dinner.

Among the Hudsonia, at short intervals, in the Hudsonia sand were little patches of the fruits with persistent calyx that are evidently from the plant. The wind gather these into patches some 3 or 4 inches across in little hollows in the sand where they remain protected by the plants. The seeds had been discharged and doubtless were before the fruit had fallen off. I took away one of these patches and an adjacent piece.

Our walk was about four miles. After dinner and a rest the party split - I went over to Dr. Joe L. Goodale's and called on him and his wife - Goodale showed me his garden with bog beds and his rockery and after a call came on a professional visit, I returned home and went over to Harry Spelman's whose house is close by our house's sand. We saw all the family

Citroybe
laevigata
Ellis
Jesse Hall's Webster
Sept. 19, 1911
Essex.

Ypswiche, Mass

1911

Sept. 17
(3)

and had a very pleasant time. I had expected to make these two calls with Clarence and Will, but by a mistake they reversed the order and we lost each other for most of the afternoon. Harry's house has a fine outlook over the marshes and dunes. While we were there Vera East's, Lawrence and Richard with friends called in automobiles from Mablehead.

We spent the evening pleasantly by the fire talking.

The stars were brilliant this evening, the air cold, and migrating birds were curving overhead.

Myself has a very heavy hay fever now.

I might mention that the space between Convolvulus the rows of vines in Goodale's vineyard where arvensis L. there were no trees as was the case at the end of some rows, was matted with Bird lice, Convolvulus arvensis L. Goodale says that this is the case in the good foreign vineyards. What especially attracts the plant I cannot see.

Another interest that Goodale is following up is the mosquitoes of which there are a large number of species in Ypswiche. He collects wiffles and hatches them. The one of the salt marshes that I was shown and whose bite I felt is Culex sollicitans -

1911
Sept. 18

Upswick, Mass.
Return to Cambridge, Mass.

Cloudy, clearing by 11 A.M.

Charlie and Will left this morning by 7.30 for the 8.02 train. W. & G. took the 11.49 A.M. That gave me good time to call on Goodale with whom I had made the arrangement last evening to see his vineyard and the method of making wine. I went soon to his home by 8.30 and staid till 10.15 and was astonished at his work. He has about thirteen rows of vines, each row I should say 200 to 250 ft. long of innumerable kinds, every kind catalogued. They were bearing in every stage of abundance, and we were constantly sampling the different kinds. Goodale explained the methods of grafting, budding, trimming, spraying, syring, etc., etc. One vine ripened its fruit for the season that would be cut from and a new scion grafted on the stock. Another proper did not have enough sugar for wine. He knew the properties of every vine. Then he took me into the cellar and showed me the whole process of wine-making from the taking the grapes off the stems, the fermenting, the introduction of the culture for that purpose, the chaying in to other kegs, the arrangement for the escape of ^{Carbonic acid} oxygen, without the introduction of air which owing to the oxygen would change the wine to vinegar to the final bottling. It was fascinating.

At least we took my good friends potatoe, and a big automobile took us to the station in 10 min. We reached Boston at 12.45, took the train to Plain Station and drove home getting there at 1.35 P.M. Welcome from all.

Trip to Concord, Mass

1911
Sept. 23

Clear as crystal, mild, still, a perfect day. Ruthven & I have had a most delightful day with Will Brewster in Concord. We took the 10.08 A.M. train at No. Carle. June, and were met by Will at the West Bedford Station. We walked down the track and through the woods to his boat landing where his iron or steel boat was lying.

Polygonella articulata is abundant by the railroad track and I saw it in sandy places across the river near Balls Hill. Zidus is very abundant along the cut through the Great Meadows that was made for the boat. We crossed the river at the Cabin where Gilbert was and spent the time before dinner walking over Balls Hill and along the river up stream to nearly the end of Will's property. The masses of the Zoon tails & Sphagnum were sprouting, but not been down as said. The champion foliage you saw a few days ago and is very beautiful indeed. It is especially noticeable in the stream by Sphagnum, Juniper &c. In this walk and for dinner I made some exposures with my 4x5 camera taking some views of the scenery and of Will & Ruth and of the Cabin and Gilbert. I was in two spots.

We had a nice dinner in the Cabin of steak, carrots, peas, &c., with wine & beer, with pleasant conversation. Then we walked to the farm house where the

Trip to Concord, Mass.

1911
Sept 23
(2)

went by Davis Hill where the five oaks are
in fruit - being cut down. We saw the
first white pine, or a 100ft. high. Will secured
as a 1-2-year old tree's nest. The birds
feed there regularly every other year and yet
the place is never molested. That is strange.
Birds were very scarce we saw a heard three
Partridges, a flock of bluepolls, one of White-
throats, a Jay crying like a Red-headed woodpecker.
We visited the Red Pines a nice grove of
them near the farm house.

We tasted many grapes. There are a great
many Concord and they were delicious. There
was a vine of a more sweet grapes a stone of
4. The Concord was all very good.

The apple was well bearing, owing to
successful spraying and spraying, in a most
profuse manner. I never saw such dense
clusters of apples before.

Abundant deer tracks all over the area
we walked over show that deer are numerous
and - Mr. James, Will's man, sees many.

At 4.30 P.M. we bade Will good bye, and
Mr. James drove us through Concord to the
Fitchburg station where we took the 5.02
train for Porter Sta. & home by electric.

The evening was spent in talk -

Geococcyx cornata hullii.

very abundant on the border of the creek opp. Balls Hill, Bedford.

Utricularia vulgaris L.

abundant Concord River, border of meadows opp. the Colby, Bedford

Panicum columbianum Scribn. (Dupl. sent Mrs. A. Chase)

Shady rather dry woods slope of near Balls Hill, Concord.

Trip to Milton, Mass.

1911

Nov. 5

(1)

Glorious day, clear, with light haze, air cool and bracing, sun strong, no wind, ideal.

Mr. Stephen Thacher and I went out to Milton this morning to visit Miss Alice E. Margesson, Reed & Highland Sts, off Randolph Ave. We arrived a few minutes after 11 o'clock and were warmly welcomed and soon we three, with Miss Tennant who is living at the house and is assistant to Miss Margaret Thacher, took a walk in the Reservation from about 11.20 to 1.45, nearly two hours and a half. The stroll was very leisurely done and we covered about three miles. It was very, very beautiful. The only trees with leaves on them were the oaks whose brown leaves still persisted in numbers though we waded on the wood paths through beds of the same brown dry crisp foliage. The leaves of the beautiful Chestnut Oak were very prominent and very beautiful and the acorns very abundant. Attempting to pick up some. I found they had all sprouted, the roots penetrating two to three inches into the soil. I took a few home.

We sat on a rock in the sun and enjoyed the delicious air and the view. At one place we came upon a flock of migrating birds that we busily watched in either scanning themselves or in feeding. These mixed flocks at this season are always extremely interesting - I noted the following:

Trip to Milton, Mass.

1911	Robin	1
Mar. 5	Chickadee	1
(2)	Milvins black-capped Warbler	1
	Song Sparrow	1
	Fox Sparrow	2 or 3
	Pine Siskin	5 or more
	White-throat	several

The Liskins were feeding on the ~~leaves~~ of a White Ash. We also noted on our walk, Crows, Bluejays & Juncos.

A good dinner awaited us on our return and after a rest in the parlor and studying a few forms, Mr. Decker & I went over to see Mr. Elms Ainslee Marshall and their dairy farm. Mr. Marshall is an Englishman and a very bright man. His wife is a niece of the ~~Patz~~ who wrote 'Tom Brown'.

We visited the barns where are 63 cows. The milking was going on and is entirely done by electricity. It is a most remarkable process and I was intensely interested. It is a principle of suction, an automatic cut-off making the action intermittent as in the case of hand-milking. The time is naturally the same as when the hand is used but the ease and the cleanliness is most effectual. Mr. Marshall supplies the best Milton families with milk.

He has a large field about 6 in. high with Alfalfa, fresh & green.

We returned to the house, bade our friends good-bye and left about 5 o'clock, reaching home by 6:40 after a most delightful day -

67

W E D I N E

January 21, 1912.

Thomas Barbour.

Fisher Avenue

Brookline, Mass.

ENGLISH

KALAY

Rice
Chicken
Curry Sauce
Fried Shrimp Cakes
Bananas fried
Meat Balls
Fish fried
Eggs fried
Cocoanut fried
Onions fried
Cucumbers
Baked Tomatoes
Peppers
Sweet Pickle
Peanuts
Chutneys
Almonds
Bombay Ducks

Nasi
Ayam Goreng
Guri
Kroepack oedang
Pisang Goreng
Biji sapi
Ikan Goreng
Telor Goreng
Khlapah Goreng
Bawong merah Goreng
Timun
Can't remember
Lada
Can't remember
Katchang tschina
Kitapang
Ikan bunnelo Goreng

This was a Balavian dinner and the above was served as one course and all in one plate - many of the ingredients Barbour brought over from Java. Beer was served and after the above, ice cream.

W. H. Deane

Concord, Mass.

1912
April
(1)

Clear, calm, pleasantly cool, rain in evening.

I took the train to Concord this morning arriving at 12 o'clock. I got my dinner at the Colonial Inn and then went to the Public Library and inspected the Horace Mann Herbarium. There are about 500 sheets of standard size in brown stiff covers. The plants are glued to the sheets and are labelled. In many cases no data, beyond the name, accompanies the specimen. Dates are generally lacking. Most of the localities are Concord Mass., but a few New England towns are also represented. Some other United States localities are also there. Apparently the collector's name is inserted when it is not Horace Mann himself. No collector is given for the New England plants and it is presumably Horace Mann - the collection is in two small wooden cases divided into appropriate pigeon holes -

The herbarium represents in the main Horace Mann's own collecting. I noticed a few plants collected by others -

Concord Mass

1912
April
(2)

At 2 o'clock I called on Mrs. M. B. De
Bradford in her beautiful colonial house
on Main St. to see the herbarium of her
late father Edward S. Hoar. I made the
acquaintance of Mr. Hoar on July 8, 1886,
when we were visiting Will Brewster and his
wife at the Old Manse. Mr. & Mrs. Bradford
were very courteous to me. We went out to
the summer house in the garden which
was enclosed in glass and had an open
fire. The plants had evidently been a
long time stored away in the barn.

They are in thin white folders generally,
caught on to the paper by strips and are
generally labelled. They relate mostly to
Concord. I particularly wanted to find
a so-called Carex Tubermanii & Carex
trichocarpa from Concord recorded in
the Middlesex Flora, but there were no
Carexes in the pile. On July 15, 1886,
I called on Mr. Hoar and looked over
his Cyperaceae with him. I also stated
in my Journal that Thoreau left Mr.
Hoar his Grasses and Sedges, but no
Cyperaceae of any kind were there. Mrs.
Bradford will have a careful search
made to be sure nothing remains in the
barn.

I talked with Mrs. Bradford about the
collection which would be entirely ruined
before long, besides doing nothing for good.

Concord Herbs -

1912
April
(3)

The plants are, many of them, unlabelled, as it is, from having no data, but a large number should be cared for. She fully agrees with me, and will present them to the New England Botanical Club where what are suitable will be inserted into the herbarium with appropriate labels.

There are several hundred plants.

Then I went to the Public Library again and saw, this time, the librarian, Miss Helen W. Kelley, who was extremely polite to me - I wanted to look over the Thoreau Herbarium to see if any Caries were there - I inspected the herbarium on Jan. 13, 1880, and found it just as it was then. It is in 6 large pasteboard folios. The mounting paper consists of sheets of thin white paper measuring $14\frac{1}{2} \times 23\frac{1}{2}$ in. On these large unwieldy sheets are fastened with strips of gummed paper as many specimens as can conveniently go on - Only plants that under moderate pressure can be used may first be in the collection and roots are rejected. More than one genus may be on the same sheet. A dozen or so sheets are enclosed in a cover of the same kind of paper as the mounting sheets. A few of these covers make a folio. There is absolutely no data excepting the name written on the sheet. In a very few cases, however, ^{is a note of locality} In spite of the large sheets, very few specimens, are larger

Concord, Mass.

1912
April
(4)

than would be adapted to a standard sheet. A number of sheets of the same material but smaller are interspersed among the large ones. The only value of the collection is as a souvenir. The plants are, presumably, in the main from Concord and represent the commonest plants. I examined two of the six folios. There is in the collection a single *Carex*, *C. lupulina* Mill.

Henry D. Boreau left this collection to The Boston Society of Natural History. They gave it to the Public Library in Concord.

I made a short call on Mr. Thur. Bradford before taking the 5.02 train back. Fox Sparrows, Song Sparrows and Juncos were singing merrily in the town. I reached home shortly before 6 o'clock.

Dr. Oliver Ames Polthrop and George came to dinner, after which we went to the Nuttall Club where Mr. H. W. Wright read an elaborate paper on the "Morning Awakening of the bird."

Concord, Mass.

1912
Apr. 27
(1)

Cloudy, mild, a very pleasant day
I have been again to Concord to
Mrs. M. B. L. Bradford's. She had called
me up a few days ago and told me
that she had found what she felt
sure was the original herbarium of
her father, the late Edw. S. Hoar.
She thought the missing Carex of Mr.
Hoar and Henry D. Thoreau would be
in it. I was delighted with this news
for here were more plants for the New
England Botanical Club too. I arranged
to go up on Saturday, April 27.

Today accordingly I took the 11.39
A.M. train at Boston station, and reaching
Concord I found Mrs. Bradford waiting
for me in her little Autocar. She
gave me a hearty welcome and drove me
to her house. After a pleasant talk
we repaired to the summer house where
in boxes containing 20 folios was the origi-
nal herbarium. On the back of each folio
was marked the family or families it
contained. A glance showed me 3 folios
marked, on the back, Carex 1, 2, & 3 respec-
tively. Out of these I took the longed-for
sheets, the so-called Carex trichocarpa
Concord, E. S. Hoar, ²Carex inkermani,
Concord, E. S. Hoar, ³Carex inkermani,
Concord, H. D. Thoreau - no. 1 = vesicaria,
no. 2 = vesicaria, var. maile, no. 3 = rostrata !!!

Concord, Mass.

1912
Apr. 27
(2)

The trouble was over. This will all be explained in our next Carey paper - It was worth much to get this.

Then I had a delightful lunch with Mr. & Mrs. Bradford who were as kind and hospitable as could be, and after lunch Mrs. Bradford took me on a very lovely ride in her handsome Pierce-Arrow with chauffeur. We visited the Golf Links where Mr. Bradford had gone after lunch and then returned and drove past the house over the river and on to Hill Brewster's place. He was, as I presumed, at the Cabin, but I saw James. Then we crossed Carlisle Bridge and through Bedford, past Bedford, to Concord Station where I left Mrs. Bradford, at 4 P.M.

On the ride I heard Robins, meadow larks, juncos, Redwing birds, and I was interested in the state that vegetation had taken. We passed several patches of blood root and in the wet places the green growth was very conspicuous -

Returning home I stopped at M. L. Fernald's and he looked over the Currier with interest. The names are as above, and the myths published in Dame & Collins Flour Middlesex Co. is exploded.

I reached home by 6 o'clock -

1912
May 27
(1)

Cambridge, Mass.
— Bees Swarming —

The day has been clear and warm and there has been very little breeze.

This morning, about quarter of ten, the maids called me out, saying that the air back of the house was full of bees. I hastened out and sure enough the air was full of bees flying about excitedly around the center of the large porch, & spruce by the fence on the ground floor, owned by my classmate, Tom Walker. They made a deafening noise. I knew that they were swarming. The maids said that they came from the ^{south} west suddenly. Approaching just near the tree and peering up into the branches, I discovered the swarm rapidly forming. It hung, from a nearly horizontal branch some 12 to 16 feet above the ground. Not long after I began to watch the swarm, all but a dozen or two of the bees had settled on the strange conical mass. This swarm was attached to the branch for some 16 inches along its surface, and its vertical length was about the same length. It was rounded at the lower end, and near the top it was some 6 inches thick, growing less toward the apex or point, and toward the line of attachment. The queen, of course, was in the center of the swarm somewhere. There was much movement on the outside surface of the swarm, the bees travelling about on it in

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Bees swarming. Cambridge, Mass

1912

May 27 every direction, while even at the quietest time
(2) in the morning, a few bees were flying about the swarm, not going more than two or three feet from it. The swarm was pretty well hidden in the tree by the short terminal needle-covered branches hanging about it.

When the swarm was complete, at long after I first saw it, the apex was about 2 inches from the next lower horizontal branch. Some two hours later, I noticed that the apex was resting on the lower branch, while there had been no accretion of numbers in the bees. The mass must have, as was natural, elongated some as time went on. Indeed I do not see how the bees especially, in the upper part of the swarm near the point of attachment can possibly hold up the thousands of their fellow (a rather weaker) bees at all.

I watched the swarm from my window, reading meanwhile, till 1.30 P.M. to see its bees leave, when the Scouts should return but nothing happened. Then at 2.13 I took an automobile ride with Mr. & Mrs. Wheeler, after showing Mr. Wheeler the swarm (his wife having come up in the morning). Returning at 6 P.M. the swarm was still there and later at 6.45 no change had taken place. Dark bees soon set in.

As far as I could ^{see} the bees were brown with no special markings. My figures are drawn from journal observations.

1912
May 28

Cambridge, Mass.
Bees Swarming -

Day clear and warm, calm in the morning, windy in the afternoon. Last night clear and cool.

This morning at 8.40 the maid hurriedly reported that the bees were leaving. I rushed down stairs to the area by the spruce tree where they swarmed. The air was filled with bees forming a swarm some 20 ft in diameter, the bees from 6 in to 1 ft. apart. The swarm was about 20 ft above the ground and was slowly drifting west. They were not far from the tree when I saw them and I watched them with my glass till soon they disappeared from sight in the blue ether. It was a most impressive sight. I detected among them one very large bee that must have been a drone. Had I known that the bees were going I should have been on the spot to see the swarm break up. They hung from the branch from 9.45 A.M. yesterday to about 8.35 A.M. today. I do not know whether so long a time is usual. Whence did they come and whether did they go? They made a loud noise with their buzzing this morning, as they did yesterday morning.

THE COMMONWEALTH OF MASSACHUSETTS.

COMMISSIONERS:
WILLIAM B. DE LAS CASAS,
CHAIRMAN.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.

METROPOLITAN PARK COMMISSION,

CONGREGATIONAL HOUSE, 14 BEACON STREET,

BOSTON, May 10, 1913.

GEO. LYMAN ROGERS,
SECRETARY.

(G.O.-Cn)

Mr. Walter Deane,
29 Brewster Street,
Cambridge, Mass.

Dear Sir:-

In reply to your request for reports of the Charles River Basin Commission, I regret to say that I can only furnish you with the seventh and eighth reports, for 1909 and 1910, which I have mailed you today.

Very truly yours,



Secretary.

THE COMMONWEALTH OF MASSACHUSETTS.

COMMISSIONERS:
WILLIAM B. DE LAS CASAS,
CHAIRMAN.
EDWIN U. CURTIS.
DAVID N. SKILLINGS.
ELLERTON P. WHITNEY.
EVERETT C. BENTON.

METROPOLITAN PARK COMMISSION,

CONGREGATIONAL HOUSE, 14 BEACON STREET,

BOSTON, May 16, 1913.

GEO. LYMAN ROGERS,
SECRETARY.

(G.O.-Gn)


Mr. Walter Deane,
29 Brewster Street,
Cambridge, Mass.

Dear Sir: -

In reply to your letter of May 12th would say I do not know how you could get a complete set of Charles River Easin Commission reports unless you could possibly pick them up at a second-hand bookstore.

In answer to your enquiry relative to the freshness of the water in Charles River Basin opposite the Cambridge Cemetery, I would say that an average of fifteen analyses made of the water in the Basin at Western Avenue Bridge in 1912 showed 32 parts chlorine in every 100,000 on the surface, and on the bottom 54 parts chlorine to 100,000. This is practically fresh water. The analyses at North Beacon Bridge made even a better showing.

Very truly yours,



Secretary.

THE COMMONWEALTH OF MASSACHUSETTS.

JOHN R. RABLIN,
ENGINEER.

METROPOLITAN PARK COMMISSION,

ENGINEERING DEPARTMENT,

14 BEACON STREET,

BOSTON, June 5, 1915.

Mr. Walter Dean,
29 Brewster Street,
Cambridge, Mass.

Dear Sir:

The following table from the chemical examination of water in the Charles River Basin, taken at West Boston and North Beacon Street bridges in 1914, shows the number of parts in 100,000 of chlorine:

West Boston Bridge,	Surface,	July,	35.00;	Oct.	174.00
West Boston Bridge,	Bottom,	July,	65.50;	Oct.	168.00
North Beacon St. Bridge,	Surface,	July,	1.60;	Oct.	140.00
North Beacon St. Bridge,	Bottom,	July,	1.50;	Oct.	143.00

Very truly yours,

John R. Rablin
Engineer.

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HIRAM ALLEN MILLER
CONSULTING ENGINEER
8 BEACON STREET BOSTON

June 5, 1913.

Mr. Walter Deane,
25 Brewster Street,
Cambridge, Mass.

Dear Mr. Deane:-

I have your favor of the 23rd. ult. an answer to which has been delayed on account of absence from the City and other matters.

I regret that I can give you no assistance in obtaining a complete file of the reports of the Charles River Basin Commission as I only have one set myself. The State Board of Health kept a record of the salt in the water in the Basin for some years after the tidal flow was eliminated, but I do not know whether the record has been continued or not since 1910.

The following is a list of the papers in regard to the Charles River Dam and Basin which appeared in the "Engineering News":-

"Engineering News"	Vol. LIII	pages	31&33
"	LII.	"	305
"	LV.	"	243
"	LVIII.	"	311
"	LX.	"	27&498
"	LXI.	"	222&292
"	LXII.	"	22
"	LXIII.	"	83&615

^x [~~i.e.~~ 8 ft. above mean sea level]

The permanent level of the Basin is at grade 8^x and it rarely ever varies 2 or 3 inches above or below that elevation. There is no appreciable current in the year below the arsenal, except in case of heavy floods.

If I can give you any further assistance in your investigations, I shall be pleased to do so.

Yours Sincerely,

Wm. Allen Miller

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Public Document No 71
Sixth Annual Report
of the
Charles River Basin
Commission.

December 1, 1908.

[Pub. Boston - 1909 -
page 1.]

p-1

1. The River closed by the Shut-off Dam.
On Oct. 20, 1908, the eighty-two
gates in the shut-off dam, described in the
Commission's last report, were closed si-
multaneously. The basin in the be-
ginning had to be filled for the most part
with salt water, the long drought having
reduced the daily flow of the Charles River
to so small an amount that to fill it
with fresh water would have taken many
days; whereas it was possible to fill the
Basin in a few hours with water let
in through the sluices - the permanent
water level, established soon after the closing
of the shut-off, is at the grade of 8 feet
above Boston Base, and Boston Base
is 0.64 of a foot below mean low-water
mark. The section and one-half miles of shore
line have undergone a transformation which
will render their further improvement a
matter of small expense compared to the cost of their
treatment as before.]

p-2

p-3

p. 34

On the morning of October 20,
 forty-one men with axes
 were assigned to their stations
 on the frame from which the
 gates were suspended, and each
 man was instructed on a given
 signal to cut the ropes that
 held two gates, after which he
 was to come down, fasten the
 gates in place with wedges
 and see that each gate was
 completely closed. At 11 A.M.
 the signal was given and in
 two seconds all of the gates
 were down; in two minutes
 they were all wedged securely
 in place. A large plant
 immediately began the work of
 placing earth fill up to the
 shut-off down within a week

The fill was well up to ²
 ordinary high water, and before
 the next run of high tides the
 fill was more nearly com-
 plete. There has been no
 appreciable movement of
 the structure since its
 filling has been in progress.

Copied by W Deane at
 the Metro. Park Comm.
 14 Beacon St, Boston
 May 29 / 15.

THE COMMONWEALTH OF MASSACHUSETTS.

JOHN R. RABLIN,
ENGINEER.

METROPOLITAN PARK COMMISSION,
ENGINEERING DEPARTMENT,
14 BEACON STREET,
BOSTON, June 22, 1915.

Mr. Walter Deane,
Shelburne, N. H.

Dear Sir:

In reply to your inquiries of June 18th, I would say that the information in regard to chlorine in the water of the Charles River Basin was probably from analyses taken at different seasons of the year, and if you could examine the records of all analyses you would find that the quantity varies from practically nothing in the spring to from 100 to 200 parts in 100,000 in the fall. This variation is due to the fact that the fresh water flow of the river during the winter flushes out the river and keeps it fresh until such time as the lack of fresh water from above allows the amount of salt water to increase.

The salt water entering the Basin from the operation of the locks, being much heavier than the fresh water, is likely to affect the water of practically the whole Basin, especially in dry seasons, but remains at the bottom of the river.

The elevation 0.64 below mean low water is Boston city base. The elevation which you saw on an old map at City Hall, Cambridge, referred to Cambridge city base, which is 4.98 feet below mean low water.

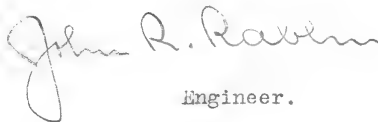
If at any time you desire to examine the records of the

W. D. -2.

analyses of the water in the Basin, you may do so by applying at this office. It is considerable work to copy them and you could probably obtain all the information you desire by just looking them over.

Hoping that this gives you the desired information, I am,

Very truly yours,

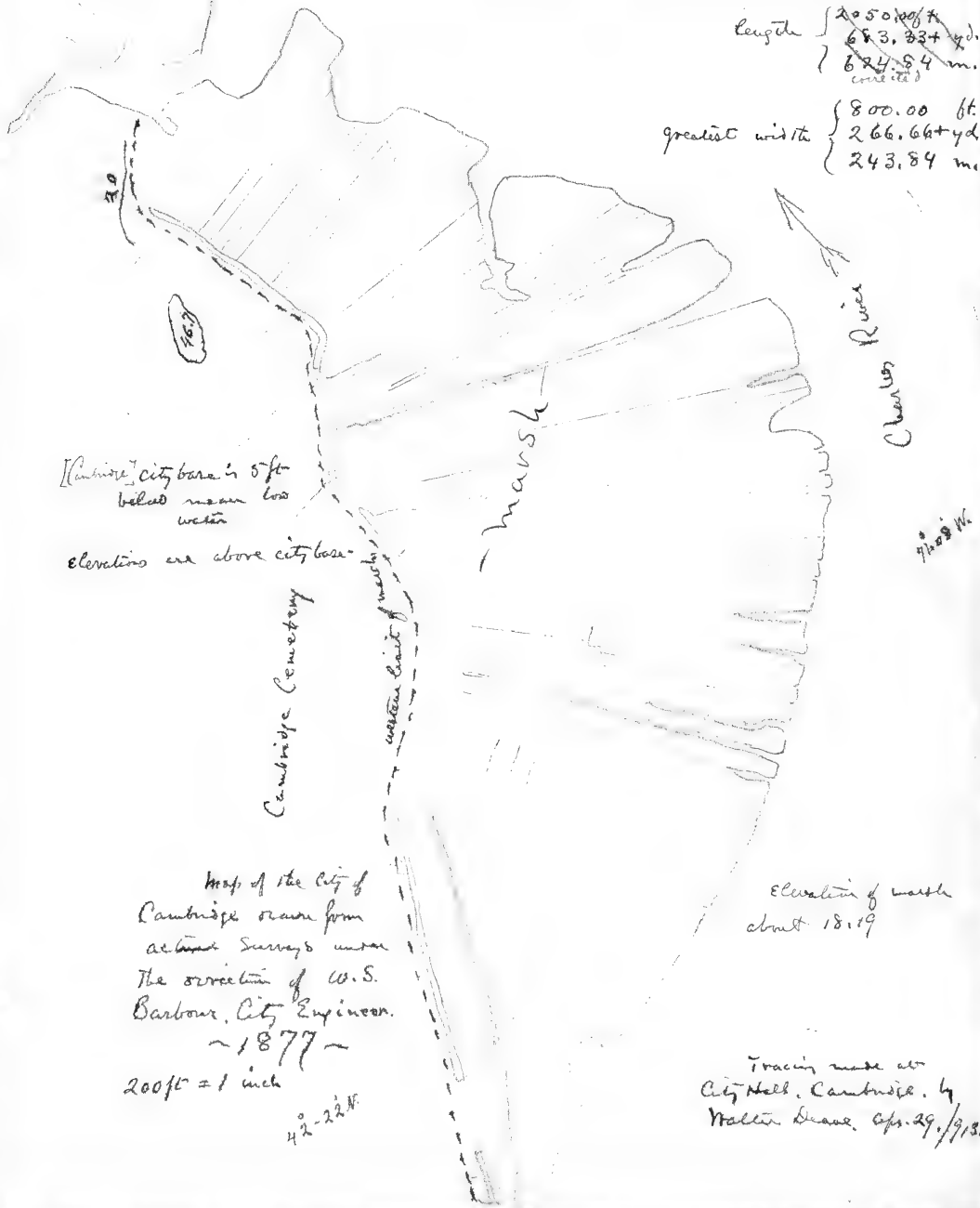
A handwritten signature in cursive script that reads "John R. Raven". The signature is written in dark ink and is positioned above the typed name.

Engineer.

Charles River marsh.

length $\left\{ \begin{array}{l} 2050.00 \text{ ft} \\ 683.33 + \text{yd.} \\ 624.84 \text{ m.} \end{array} \right.$
corrected

greatest width $\left\{ \begin{array}{l} 800.00 \text{ ft.} \\ 266.66 + \text{yd.} \\ 243.84 \text{ m.} \end{array} \right.$



Cambridge city base is 5 ft below mean low water
Elevations are above city base.

Cambridge Cemetery

western limit of marsh

marsh

Charles River

7/20/13

Map of the City of Cambridge drawn from actual surveys under the direction of W. S. Barbour, City Engineer.

~1877~

200 ft = 1 inch

42-22 ft

Elevation of marsh about 18.19

Tracing made at City Hall, Cambridge, by Walter Deane, Apr. 29, 1913.

Charles River Marsh

Length = 2250 ft
750 yds
685.80 meters
.426+ miles
390ft or 130 yds less than ^{half} a mile

Width = 800 ft.
266.66+ yds
243.84 meters
About $\frac{1}{6}$ of a mile

From center of marsh to dam 4.72+ miles

From center of marsh to Western Avenue
Bridge, 1.45+ miles down stream

From center of marsh to North Beacon
Bridge, 1.82+ miles up stream

From center of marsh to Brookline Bridge 2.36+ miles down stream

Approximate measures -

From my location of the marsh from maps of
City of Cambridge, 1877, at City Hall, Cambridge
and Boston & Surroundings, Walker, Litch &
Pub. Co., 400 Newbury St., Boston, Mass -

From Watertown Dam to present dam near mouth of river
6.17+ miles.

Cambridge Mass.

1912
July 17
(P)

Charles River Marshes near Stillman Infirmary

There is a large extent of marsh bordering Charles River on the left bank, bounded on the east by the river and on the west by Cambridge Cemetery and a piece of unoccupied land just north of it. The marsh is broadest in the center (about 650 ft.) and tapers to a point at each end. This area like so many others bordering the river within tidal limits was a typical salt marsh before the dam was erected across the mouth, four years ago. To see how far the old salt vegetation had persisted and what upland plants were taking possession, I walked over the northern portion of the area this afternoon.

The bulk of the area is covered by Spartina patens (Ait.) Michx. and Juncus roemerianus Loisel but the foreign plants are rapidly taking possession and driving out the original occupants.

I took back with me a specimen of everything that I could find and the following is a list. I have marked those marked X = collection on dry wood. A red line under a name = plant collected on time. Both indicated by a X on some org - New sp. for the marsh will be mentioned in order.

These checked
/ are introduced
foreign plants

1 Typha latifolia L.

In a foot of water on the border of river
A number of plants - fruiting.

2 X Potamogeton epiphyteus Raf.

A patch several feet across, border of river

Cambridge, Mass.

1912

July 17 3 Potamogeton crispus L.

(2) Very abundant in the river.

4 Sagittaria latifolia Willd., ^{forma gracilis} var. ~~latifolia~~ ^(Pursh) Robinson
in few plants on river margin. ^{This was a plant which I collected Aug. 16}

5 Cyrtosia alba L.
Scattered over the area

6 Cyrtosia alba L., var. vulgaris (Walt.) Thurb.
Occasional

7 Cyrtosia hibernica (Walt.) B. & P.
Scattered patches, conspicuous.

X⁸ Spartina patens (Michx.) Mill. (See F. T. Hubbard, Oct. 30/12)
Very abundant, forming large areas and making a large part of the vegetation.

9 Spartina Michauxiana Hitchc.
A few plants, on the border of the creeks.
Apparently this has been abundant in these situations and has been cut down, for the cut off bases are very evident.

10 Poa compressa L.
But one plant recognized.

X¹¹ Poa triflora Sibth.
Frequent. (See F. T. Hubbard, Oct. 30, 12)

Cambridge, Mass.

1912
July 17¹²
(3) Ruccinellia maritima (Aud.) Parl.
A few plants only seen. Rootstock present.

¹³ Phalaris arundinacea L.
A single plant.

¹⁴ Phleum pratense L.
A few plants, (Frequent. Sept 25)

¹⁵ Agropyron
~~ritense~~ repens (L.) Beauv.
Abundant

¹⁶ Secale cereale L.
A single plant in middle of marsh.

¹⁷ Carex vulpinoidea Michx.
A single vigorous plant

¹⁸ Lemna minor L.
Abundant on river border

¹⁹ Juncus Gerardi Loisel.
A large feature of the vegetation, occupying large dense areas. The plants being flat, brown in color, fruit ripe.

²⁰ Juncus acuminatus Nees
~~brachycephalus~~ (Engelm.) Buchenau
Occasional only.

²¹ Betula populifolia Michx.
Abundant along borders of swamps, 5-6 ft. high.

Cambridge, Mass.

- 1912
July 17²²
(41) Rumex crispus L. grain subglobose, with rounded ends. ←
widely scattered, the beam tips very conspicuous.
- X²³ Polygonum ^{rumicostatum Willd., form obtusum} ~~prolificum (Small)~~ Robinson ←
Scattered. See B. L. R., Nov. 2/12.
- X²⁴ Polygonum Lapathifolium L. See B. L. R. ←
Nov. 2/12.
Scattered frequent. (see further notes)
1 plant only present, and identified but I inferred that
the plants about were the same.
- Polygonum Persicaria L. ←
Single plant.
- ²⁵ Atriplex patula L., var. castata (L.) Gray. ←
A number of plants seen.
- X²⁷ Spergularia marina (L.) Griseb. ←
Scattered throughout.
- ²⁸ Lepidium virginicum L. cot. acc. 0 = ←
Frequent. Petaliferous.
- ²⁹ Trifolium pratense L. ←
Occasional.
- ³⁰ Trifolium hybridum L. ←
Occasional.
- ³¹ Potentilla canadensis L. ←
Frequent.

Cambridge, Mass.

1912

July 17³² Potentilla Anserina L.

(5) A few plants, river bank.

³³
X Rosa rugosa Thunb.

A leafy shrub. 3 ft high in the marsh.

³⁴ Rosa virginiana Mill.

One plant on the shore.

³⁵ Epilobium angustifolium L.

A single plant.

³⁶ Oenothera muricata L.

Frequent. Bracts leaf-like, spreading hairs on stem.

³⁷ Cicuta bulbifera L.

Two plants, river bank.

³⁸ Cuscuta sp., probably Gomonii Willd.

Twinning over plants river bank, stems only.

³⁹ Lycopus americanus Muhl.

Occasional

⁴⁰ Linaria vulgaris Hill

Abundant in patches. A little only

⁴¹ Linaria canadensis (L.) Dumort.

Abundant over the area, growing in large, trash patches.

Cambridge, Mass.

- 1912
July 17⁴²
(6)
- 42 Plantago major L.
Sides of marsh. Pod splitting near middle.
- 43 Plantago decipiens Barneoud.
Frequent throughout.
- 44 Solidago sempervirens L.
A single plant seen - Flowering.
- 45 Solidago graminifolia (L.) Salisb.
A little only.
- 46 Erigeron canadensis L.
A little only.
- 47 Baccharis halimifolia L.
Two or three straws well out on the
marsh. It is planted inside the iron
railing on Mt. Auburn St. opp. Sparks
St. and easterly. (a large clump on Mt. Auburn St. opp. Sparks
St. and easterly. measured 6' x 1/2, Aug. 31/12, 4 1/2 ft. high)
1/4 mile.
- 48 Gnaphalium polycephalum Michx.
Occasional.
- 49 Ambrosia artemisiifolia L.
Occasional.
- 50 Bidens frondosa L. or vulgata Greene.
A little, river bank. Leaves only.

Cambridge Mass.

- 1912
 July 17⁵¹ (7) *Bidens comata* Nutt., var. *petiolata* (Nutt.) Farwell.
 One plant, river bank.
- ⁵² *Achillea Millefolium* L.
 Occasional.
- ⁵³ *Artemisia vulgaris* L.
 Abundant, border of marsh.
- ⁵⁴ *Erechtites hieracifolia* (L.) Raf.
 Abundant, forms large patches
- ⁵⁵ *Cirsium lanceolatum* (L.) Hill.
 One locality
- ⁵⁶ *Cichorium Intybus* L.
 Frequent
- X ⁵⁷ *Sonchus arvensis* L.
 A few plants, in flower
- ⁵⁸ *Sonchus oleraceus* L.
 Occasional.
- ⁵⁹ *Sonchus asper* (L.) Hill.
 Occasional. (examined) inflorescence from the lawn
 (I can find none else to fruit. Oct 5/12)
- ⁶⁰ *Lactuca scariola* L., var. *integerrima* Green. & Godr.
 very abundant, covers large patches
- ⁶¹ *Lactuca canadensis* L. Occasional. Total 61

Cambridge, Mass.

1912
July 19
(1)

Visit to the marsh by Stillman Infirmary.

I went again this afternoon to the marsh by the river, and wandered carefully over the entire extent, that is, to where the river bank comes close up to the steep pitch back of Cambridge Cemetery. I zigzagged over the area, and I followed the bank of the river the entire distance. I noted a number of new plants and I made observations on the occurrence of those noted yesterday, extending the range. I saw that a rough cart road, formed of two ruts lead into the marsh and in many places the Black Grass, *Juncus Gerardii* Loisel. had been cut and removed, and in other cases, it was lying cut. As I mentioned, July 17, there were large areas of uncut Black Grass, brown and lying flat, as if beaten down - I don't quite see what has caused this. Creeks, easily crossed, from one to about six feet wide are frequent running east and west, that is from the higher land to the river, while one creek, some three feet wide extends north & south for some distance from the southern end -

Meadow Larks were constantly singing and showing their selves and in one spot I started from under my feet a young Meadow Lark that flew off in a

810
Cambridge, Mass.

1912

July 19

(2)

in a great hurry, dropping into the pass
a short distance off, and uttering a curious
peent, peent. Occasionally I heard a Savan-
na Sparrow and, as I was talking with
Mr. + Mrs. David Haskins whom I met on
the northern border of the marsh, I saw
a flock of 8 or 10 Black Ducks flying
down the river and later returning
and flying over the Stillman Infirmary

Cambridge, Mass.

1912

July 19.

(3) Additional notes on some of the plants noted on July 17, covering the entire marsh

(3) *Potamogeton crispus* L.

Densely growing along the entire bank over the whole distance of the marsh -

(4) *Sagittaria latifolia* Willd., var. *hastata* (Pursh) Rebusius
Common along river margin (From doubtless as not collected)

X (8) *Spartina patens* (L.) Humb. ^{July 7. (Hulland)} _(Oct 30 / 12) Common about 1/3 of the area

(9) *Spartina Michauxiana* Hitchc.

Not uncommon on northern end of marsh, growing away from the creeks -

(16) *Secale cereale* L.

A few plants.

(19) *Juncus Gerardi* Loisel

This Black Grass is cut. I saw large areas that had been cut, and areas with the *Juncus* lying cut on them.

There are cuts leading into the marsh.

(20) *Juncus ^{acuminatus (Willd.)} brachyphlois* (Engelm.) Buchanan - Occasional.

(21) *Betula populifolia* Marsh.

Abundant on bank of river -

X (23) *Polygonum ^{ramissimum Willd., forme attenuatum.} foetidum* (Swall) Rebusius -

see B. & R. Vol. 2 / 12

Abundant in southern section. E. side.

(25) *Polygonum Persicaria* L.

Several plants -

Cambridge, Mass.

1912

Jul 19

(4)

(27) *Spergularia maritima* (L.) Erselev

Abundant, forms dense patches

(28) *Lepidium virginicum* L.

Abundant, forms dense patches.

(32) *Potentilla Anserina* L.

Abundant, throughout in damp places,
-especially in creeks-

(35) *Epilobium angustifolium* L.

Frequent.

(37) *Cicuta bulbifera* L.

Occasional along river bank.

(39) *Lycopodium americanum* Nutt.

Abundant along river.

(43) *Plantago decipiens* Turnefort

Abundant, forms dense colonies

(46) *Eriogonum canadense* L.

Frequent.

(50) *Bidens frondosa* L. or *villosa* Greene

Abundant along river.

(55) *Cirsium lanceolatum* (L.) Hill.

Another plant.

Cambridge, Mass.

1912

July 19⁽⁵⁷⁾ *Sonchus arvensis* L.

(5) Several stations, one large one in the southern end.

(59) *Sonchus asper* (L.) Hill (not sufficient verified). Occasional, but less frequent than ~~arvensis~~ ^{olivaceus}.

(62) X *Puccinellia maritima* (Huss.) Parl. ^{1st plume more than leaf as long as lowest flower. Lemma 3.5 mm. long.} Scattered stations _(Type 7.7. H. Herb. Oct. 30/12)

List of new plants found to-day on the marsh. I take them home and have pressed three checked X.

Subsided plants checked ←

62 *Sagittaria latifolia* Willd. Abundant in ditch at southern end.

63 *Sagittaria latifolia* Willd., var. *obtusata* (Muhl.) Robinson. Gravis with the type.

X 64 *Potamogeton dimorphus* Raf. Considerable in a bog of the river at the southern end.

65 *Echinochloa crusgalli* (L.) Beauv. ~~Scattered~~ ^{Scattered} 1,000 or three plants on marsh.

66 *Anthropanthemum odoratum* L. A plant in middle of marsh.

X 66' *Spartina patens* (Ait.) Muhl., var. *juncea* (Michx.) Hitchc. (Type 7.7. H. Herb. Oct. 30/12) Scattered _(not wet in marsh)
67 *Hordeum jubatum* L. A plant in middle of marsh.

Cambridge, Mass.

1912
July 19^{x65}
(6)

Carex Crawfordii Fernald. nu. at Hb. N. E. Bot. Club, OX. 28/12, by W.D. ✓
A few plants by the river.
[↑ in C. Acosperma Schreb., at stained form - note wings on above at H. 7. May 21/15]

69 Carex hornathodes Fernald.
A plant by the river; southern end overgrown.

70 Juncus tenuis Willd.
A plant in middle of marsh

71 Rumex acetosella L.
Frequent.

72 Suaeda ^{linearis (Zell.) Moq.} ~~maritima (L.) Dumort.~~
A patch close by the river - leaves not glaucous.

73 Acrida canadica L.
A number of plants seen over the marsh - ♂ & ♀.

74 Impatiens biflora, Waltz.
A vigorous plant on marsh, south end.

75 Hypericum boreale (Britton) Bicknell
A number of plants together by river.

76 Epilobium coloratum Muhl.
seeds abruptly emarginate above, leaves elongated, lanceolate. Frequent over the marsh.
[evidently related to this sp.]

Repeat this until of seed are taken - see 130; Aug. 31

77 Cicuta maculata L.
A single vigorous plant by a ditch.

Cambridge, Mass.

1912

July 19

⁷⁸
(7) *Limnium carolinianum* (Walt.) Britton
78-96. One plant on river bank close water.

79

Tanacetum vulgare L.
One or two plants

✓

80

Cirsium arvense (L.) Scop.
One plant.

✓

81

Parapsacum officinale Weber
Imm. lobes strongly reflexed. One or two plants Total 81

✓

Cambridge, Mass.

1912
July 20
(1)

A walk with William Brewster over the marsh by Stillman Infirmary and back of Cambridge Cemetery -

This morning Will Brewster & I spent a couple of hours on the marsh behind the Stillman Infirmary, traversing it quite thoroughly to the end, and then climbing the bank to the Cemetery and going round the Knoll just north of it, and through the large field purchased lately by Browne & Reed for their school boys, and skirting round the Forbes house and then home by Elmwood Cove and Soattle St. It was an extremely interesting and profitable stroll both botanically & ornithologically. Will was very much pleased to hear and see Savannah Sparrows on the marsh at this breeding season. An adult Black Duck, probably a female, leading a brood of ten well-grown young on the river was an attractive sight while a family of Sparrow Hawks among the trees on the slope back of the Cemetery suggested that they were the brood that were reared on the Chauncy Smith estate on Soattle St. with their parents. As we rounded the Knoll north of the Cemetery we heard the call of a Pheasant, and later when back of the Hospital we heard another call both some distance off.

Cambridge, Mass.

1912
July 20
(2)

I am getting more acquainted with the marsh as I walk over it - there are two stretches that extend north, parallel to each other, starting from the southern end -

Will's theory in regard to the prostrate Juncus Gerardi is this and it must be correct.

The soil is getting more and more ungenial to the Juncus, for the water of the river is now absolutely fresh. The plants reached their growth in these areas, but could not withstand the severe drought of June & the early part of July, and died, this and the severe rains have beaten them down flat. Large areas look as if the Juncus had been cut last season but had been unable to come up again this year -

The stretches or checks that abut on the marsh contain still water in the bottom, generally connecting with the river. This water is almost choked with 'wrigglers' and the mosquitoes raised must be sufficient to infect a city.

We estimated that the area of the marsh covered by Juncus Gerardi must be nearly one half. Spartina patens or its var. pinacea, or both (I shall determine later) must cover about one quarter.

Cambridge Mass.

1912

July 20

Observation on plants already noted -

(3)

(1) *Typha latifolia* L.

Abundant in ditch, south end, flowering.

Racine

Scattered abundantly over the
marsh in single clumps.

(19) *Juncus Gerardi* Loisel.

See note (July 20, p. 2)

(35) *Epilobium angustifolium* L.

Scattered plants, very low, about 3 in. high.

(44) *Solidago sempervirens* L.

A good many plants at north end.

(57) *Sonchus oleraceus* L.

A large flowering patch by river at
broadest ~~place~~ part of the marsh

New plants -

82 *Cleopodium album* L.

A flourishing plant in middle of marsh -

* 83 *Ranunculus palustris* (L.) Moench, var. *lucida* (Desf.)

A single plant by river -

Ranunculus

Cambridge, Mass.

1912
July 20
(4)

Bird observed on a walk with William Brewster over the marsh by Stillman Infirmary and round over the Bromme & Nichols field by Charles River.

Anas rubripes. 1 ad + 10 im. on the river, the ad. feeding, the im. bunched.

Actitis macularia. Abundant along the river.

Phasianus triquatus. one heard twice, some distance off. first from the marsh near the athletic field and again as we were by the walk behind the hospital.

Talco ssp. varius. About 5 together among the trees on the slope behind the Cemetery. One flew into a tree with apparently a snake hanging from its claws. It looked green. The bird dropped it. Another plunged down into the grass and rose with a bunch of dead grass that had been cut, and alighted in a tree near us. It evidently had dived for an insect and taken the wriggle with it, for it soon dropped the leaf. This flock is evidently below the Chamney Smith birds.

Ceryle alcyon. One flying & calling.

Cambridge Mass.

1912
July 20
(5)

Colaptes auratus 2

Chaetura pelagica 12 or more.

Tyrannus tyrannus 1

Corvus americanus Several

Aplaius phoeniceus Flock of about 30, and
individual birds. One im.

Sturnella magna 3 or 4, singing on the marsh

Quiscalus quiscula (30) + individual birds

Passer domesticus Several

Passerculus sandwichensis savanna 2* + 1 seen.
On the marsh.

Melospiza melodia 3 or 4* on the marsh

Dendroica aestiva 1, Colidge farm

A trip to Marblehead Neck, Mass.

1912
July 24
(1)

Clear as crystal all day, very cool & bracing.
Fresh breeze till latter part of afternoon.

This morning I took the 9.20 A.M. train at the North Station reaching Severeax, the last station before Marblehead, at 9.56. There I met Mrs. Grose Sheffield & Mrs. Edward Myman whom I had come to spend the day with - they had called for me in a light open carryall with a driver, and we had a delightful drive south toward Clifton, with the ocean and rocks on our left, and land some estates on either side. The roads are superb. Returning we took the Beach Road over the Causeway to the Neck. A fine view is obtained of the Harbor filled with myriads of craft of every description. Prominent among these is the House-Boat belonging to Arthur Perrin. It lies anchored some distance from the head of the harbor and presents an odd appearance. We drove around the Neck, passing Tom Ticknor's house. At one place we stopped to see an Italian garden. It was a very remarkable transformation from the barren soil on the rocks. A pergola stood in one place and flower beds and paths between them brightened the scene. Curious figures, perhaps three feet high, resembling mountain gnomes, with beards sometimes, and in extremely natural color were scattered about in very

A trip to Marblehead Neck, Mass.

1912

July 24

(2)

natural attitudes, almost deceiving me - One little fellow was resting on a bank with his paws on the grass and his head on his head. Another was standing in the flower bed and so on -

Returning to the drive, we went to the Samostet where the ladies are staying. We sat on the piazza, talking and enjoying the fresh air. During the drive and period before lunch I found my light overcoat a comfort. The air was as clear as crystal and I enjoyed the movement on the water.

After a hearty lunch and another pleasant session on the piazza, I bade Mrs. Wigner goodbye and Mrs. Sheffield & I took the ferry and went round the harbor, finally landing at Marblehead and walking along the narrow street toward Fort Sewall. We passed the Pirate's House dated 1620 and we visited Agnes Surriage Well, an old-fashioned well on the site of the old Fountain Inn. We went up on Fort Sewall whose ramparts are still standing and sat there some time. The site at the west entrance to the Harbor and it commands a very fine view over the harbor and the bay and ocean. I saw Lowell Island and Baker's Island with its two lights and I thought of the visit to this spot

A Trip to Marblehead Neck, Mass.

1912
July 24
(3)

that Mr. & I made on Aug. 19, 1901, fully recorded in my Journal. We then wandered through the town, traversing quaint, narrow, steep streets at times descending from one elevation to a lower level by steep and narrow steps.

I saw an old house with the following inscription on it. "Ye old Brig - Moll
Birth Place of Moll Pitcher - Erected Pitcher
1650 A.D."

Mrs. Sheffield accompanied me nearly to the Station where I took the H. & D. train reaching home by 6.15 after an extremely pleasant day.

At lunch I was introduced to Mr. & Mrs. Pleasant
Hubbard & Miss Hubbard from Pittsfield, Mass. I heard
I believe. Mr. Hubbard told me that he started recently an old Pleasant and brood of 8 or 10 young on the neck near a house, from among some scrub. He was surprised to find them so near habitations.

Mr. & I visited Marblehead last year on Aug. 30, 1911 to see Mrs. Noyes & Mrs. Sheffield.

BOSTON HEAT RECORD FOR NINE DAYS

Boston Herald — July 12/12 - Friday

	Wed.	Thur.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thur.
1 A. M.....	68	71	72	70	72	72	80	79	75
2 A. M.....	67	70	71	69	71	72	80	78	73
3 A. M.....	66	69	70	69	70	72	79	77	75
4 A. M.....	65	68	69	68	70	72	78	76	74
5 A. M.....	65	67	68	68	70	72	78	76	74
6 A. M.....	66	68	69	70	72	73	78	78	75
7 A. M.....	69	72	73	73	75	74	79	81	77
8 A. M.....	72	74	75	75	78	76	84	82	82
9 A. M.....	80	81	81	80	82	81	89	87	85
10 A. M.....	85	84	85	83	85	85	93	91	88
11 A. M.....	88	89	87	86	87	88	95	94	90
Noon.....	90	90	90	88	89	90	97	96	75
1 P. M.....	91	92	91	90	91	93	98	96	74
2 P. M.....	92	93	91.4	89	93	90	97	*87	80
3 P. M.....	92	94	90	88	92	94.4	99	90	77
4 P. M.....	92	90	88	87	90	93	96	85	70
5 P. M.....	91	88	87	86	88	88	88	89	71
6 P. M.....	90	85	84	83	84	88	95	89	74
7 P. M.....	86	84	82	80	82	85	91	85	72
8 P. M.....	83	78	79	78	80	84	88	82	73
9 P. M.....	79	77	77	73	78	83	86	80	72
10 P. M.....	75	76	76	72	76	83	85	79	72
11 P. M.....	73	74	74	71	74	82	85	77	71
Midnight.....	72	73	72	71	72	80	84	76	70
	July	3	4	5	6	7	8	9	10

*At 1:15 the official registration was 97 degrees.

Cambridge Mass.

1912
Aug. 16
(1)

Visit to Charles River marsh back of
Stillman Infirmary -

This morning Dr. F. S. Kennedy, Mr. Sam Henshaw, Dr. Walter Faxon & I went over the Charles River marsh. Several new species had appeared since my last visit, July 20, and species flowering there were either fruiting or past. Mr. Henshaw while crossing a wide ditch Henshaw on a board that was lying across and used as falls into a foot bridge, broke through and dropped into a ditch the thick muddy bottom above his waist. No harm recalled beyond the wetting. Henshaw & Faxon left after the wetting, but Dr. Kennedy & I staid till one o'clock, examining everything.

Plants collected on the marshes or observed

(4) ~~as noted~~ - Observations of plants already noted.

X *Sagittaria latifolia* Willd. ^{*forma prostrata*} ~~*forma prostrata*~~ (Pursh) Robinson. (From S. S. Robinson + 1028. Nov. 9/12)

I collected a form on the river bank with leaves ^{representing this form} ~~of another~~ form called ~~advent.~~

X (19) *Spartina Michauxiana* Hitchc. Considerable ~~wetland~~ ^{wetland} -
(19) *Potamogeton* ~~form~~ ^{middle of marsh away from ditch.}

This 'Black Grass' appear to have been all cut and removed.

(73) X *Cenchrus canadensis* L.

Abundant, both ♂ & ♀ plants, on border of ditch back of Cemetery and parallel w river -

Cambridge, Mass.

1912

Aug. 16⁽²²⁾ *Lepidium virginicum* L.

(7) The prevailing species, abundant, especially near the river border.

(76) *Epilobium coloratum* Muhl.
Abundant at S. end. Pubescence in lines of incurved hairs, leaves distinctly petiolate

Verbena hastata L.
~~One or two plants.~~

(89) *Lycopus americanus* ~~smooth~~ *americanus* Muhl.
Abundant by river. Stoloniferous, sterile filaments conspicuous, tips foliolar.

(48) *Gnaphalium polycephalum* Michx.
Rather abundant.

(61) *Lactuca canadensis* L.
Leaves glabrous, akemes 1-nerved.
Occasional -

new plants observed
x = collected

84 *Potamogeton brepleuroides* Fernald.
Leaves not crisp. A single plant in the large cove at S. end.

x 85 *Najas flexilis* (Willd.) Roth. & Schmidt.
Considerable in large cove at S. end.

Cambridge, Mass.

1912
Aug. 14
(3)

- 86 Alisma Plantago-aquatica L.
Two or three fine flowering plants at mouth
of ditch close to river, about midway, n+s.
- 87 Panicum ^{dichotomiflorum Michx.}
~~virgatum L.~~
Abundant, scattered throughout, young.
- 88 Dactylis spicata (L.) Wren. ♀
Considerable at n. end.
- X 89 ~~Spartina glabra Michx., var. viridula Michx.~~
~~Single plant, middle of ditch.~~
- X 90 Cyperus ferox Richard.
Abundant at n. end & occasional at s. end.
- X 91 Scirpus ^{robustus Pursh} ~~caespitosus Britton, var.~~ ^{more caespitose (Britton) form}
~~1.5 m. high - Abundant at s. end, wet ground~~
- X 92 Polygonum ramissimum Michx. ^{forma atlanticum Robinson}
11 dm high, erect. Abundant s. end. Petals exerted.
Miss S. L. R. Nov. 2/12.
- 93 Radicula palustris (L.) Moench.
Single plant on marsh. Plant flabrous -
In herb. S. G. Kennedy.
- 94 Melilotus officinalis (L.) Lam.
Dumps close to one part of the marsh.
Pods cross-ribbed.

Cambridge, Mass.

1912

Aug. 16

(4)

X 95 *Lycinus divica* L.

Large clump on dump on border of, and
once part of marsh. Flower open at
midday, styles 5. in woods.
Should come between 92 + 93

96 *Limonium carolinianum* (Walt.) Britton

In ditch in middle of marsh 96 = 78.

97 *Asclepias incarnata* L., var. *pulchra* (Ehrh.) Pers.

Several plants in water of river, border of marsh

98 *Verbena hastata* L.

Single plant on marsh near border, s. end.

99 *Gerardia ~~parviflora~~* (Gray) Britton. *maritima* Raf.

Single plant on marsh.

X 100 *Eupatorium ~~parpureum~~* L., var. *maculatum* (Ch.) Darl

Single large plant on the marsh
size 2.6. Aug 13, 1912.

101 *Solidago altissima* L.

Stem pubescent, involucre 3.2 mm broad.
A clump on the marsh.

102 *Aster subulatus* Michx.

Very abundant over the marsh on creek border.
Not yet in flower.

X 103 *Polygonum ~~erectum~~* ^{var. 2.1.11. Nov 2/12} *prolificum* (Small) Robinson
Abundant on marsh, n. end. Should be after 91.

Cambridge, Mass.

1912
Aug. 16
(5)

I collected this noon in a ditch on
the Coolidge Farm near Cambridge Cemetery:

Polygonum pennsylvanicum L. ^{side B. L. R. no. 2, 112.}
" ^{acere HBK., var. leptostachyum Meisn.}
Very abundant - ^{side B. L. R. no. 2, 112.}

Cambridge, Mass.

1912
Aug 18

At about 1:45 P.M., cloudy and cool, I was called to the front of the house, as I was benching write the report that the air was full of bees. With thoughts of an experience similar to that of May 27 (last), I hurried to the front. A large swarm of bees was in the air, as before, but this time it was centering, with loud noise about the top of the tall brick chimney on the rear end of the Ford's house, corner Rüssel Ave. & Brewster St. I could see that many bees had alighted on the outside of the chimney close to the top. The swarm was going down the chimney - I watched their numbers growing less & less and in a half hour all but one or two bees had disappeared. Exactly what it means I do not know. The house is closed.

Swarm
of bees.

[Charles E. Larson, our man, told me a few days later that the next day he saw about two dozen bees on the window panes of the closed windows inside the house. They had worked their way down the chimney and into the stove. They died soon in the house. The bulk of the swarm Carl felt sure left the chimney as the previous swarm of May 27 (last) left the Spruce Tree (see Journ.).]

Cambridge Mass.

1912
Aug. 27
(1)

Visit to Charles River marsh.

I spent three hours this afternoon, from about 3.15 to 6.15, with J.R. Churchill, on the Charles River marsh back of Stillman Ins. firmery. We traversed the whole area and I made more observations and found more species.

It is interesting to see the conquest of some of the invading plants. They behave as many species have done and are still doing, when introduced into a new region, taking possession without resistance and densely covering large tracts in profuse abundance, not seen elsewhere. *Lactuca scariola*, var. *integrata*, *Erechtites hieracifolia*, *Linum canadensis* are illustrative. These plants grow over the marshes, that were covered by high tides, in dense profusion. It is strange to see *Linum canadensis* so thickly growing. It is now gone, and I had in one place to-day a large patch that had been cut down and that would make, if stacked, a good-sized cock. *Juncus Gerardi* is cut down and ^{partly} taken off, as is shown by the large cut areas with the rush either by us, ready to be taken, or already removed.

We saw a Spotted Sandpiper very close at hand on Spotted the marsh. He flew over the river with wing tips almost touching the water. A Meadow Lark flew by and alighted near on the marsh. A Sparrow Hawk soared near us.

Cambridge Mass

1912
Aug. 27
(2)

When I first visited the marsh in the middle Potamogeton of July, the broad band of Potamogeton crispus crispus that lined the margin of the river a few feet from the bank, and was a few feet in width was floating just below the surface and quite visible. The plants are now breaking up and not little can be seen here and there. They are in flower by the end of May and in fruit by the middle of July when the plants are beginning to disintegrate.

The area of the marsh is well defined. It has its northern point just opposite old Simms Hill where there used to be a bog now nearly filled. At this point the higher land runs straight south, part of the boundary being a hill largely cut away, and just beyond Cambridge Cemetery.

The river makes a broad bend just beyond Simms Hill, going up stream, returning to the high bank back of Cambridge Cemetery almost to its foot. Beyond the marsh broadens again. At the southern point a broad ditch cuts into the marsh from the river, nearly to the foot of the bank and then turns north in two parallel ditches for some distance. Parallel ditches running across the marsh east and west are frequent as is natural in salt marshes, cut long ago for drainage purposes. They connect with the river. Some are broken down in places, affording easy crossing.

Probably the length of the marsh is about 700 yds. and the width 200 yds.

Size of marsh.

Chubbuck Mass.

1912
Aug 27
(3)

Observation on plants already noted.

- (13) *Potamogeton crispus* L. This species frisks by the middle of July and, at the fruiting time, the plant is disintegrating - the plant now, that bordered the river a short distance from the bank and was very conspicuous as it stretched in a wide band, the upper part of the plant just below the surface of the water, is quite gone except fragments here and there.
- (12) *Puccinellia maritima* (Huds.) Paal.
Scattered over the marsh in isolated patches
- (19) *Juncus Gerardi* Loisel.
As far as I can see, this Black Grass has been entirely cut and taken away.
- (24) *Polygonum lapathifolium* L.
The mass of *Polygonum* grows over the northern portion of the marsh I examined carefully, and it all had peduncles with stipitate glands and stems 2.5 mm. broad making it *P. pennsylvanicum* L. I could not find any *lapathifolium*. On July 17 I collected some of this plant ^{from the same place} and it was found *lapathifolium* and I inferred that it was all that species. So as far as I know, *lapathifolium* was confined to a small area at the northern end.

1-2
Cambridge, Mass.

1912

Aug. 27 (40) *Luzania vulgaris* Hill.

(4)

This occurs rather frequently in dense patches several feet across.

(41) *Luzania canadensis* (L.) Dumont.

I have referred to the dense masses of this species. I found to-day an area a few rods across that had been covered with this plant. The plant was cut and lying dry on the surface like hay. It would have made a fair-sized cock -

(44) *Foliosus sempervirens* L.

Abundant at north end and scattered throughout.

(47) *Baccharis halimifolia* L.

Besides the few plants some 3 ft high already noticed, I saw a number of thrifty plants about 2 ft high on the border of the marsh about midway from western + southern ends.

(54) *Erechtites hieracifolia* (L.) Raf.

Now just past fruit. It made a beautiful appearance lately in full fruit. There is a very large dense area in the southern half taller than one's head.

(65) *Echinochloa crusgalli* (L.) Beauv.

Scattered throughout

(98) *Verbena stricta* L.

Occasional S. end.

Cambridge, Mass.

1912

Aug 27 (102) *Aster subulatus* Nutt.
(5) In full flower.

(87)

X *Panicum orichthospermum* Link.

The following ~~was~~ species. Extremely abundant in the northern half especially. Single plants at least 5 feet across and nearly 3 ft high.
(On Aug 31/12 I measured a plant with culms 1/4 ft long, number a circle 8 ft across, culms curving up at the end & one 2 or 3 ft.) & at the n. end of marsh

(72)

X *Suaeda linearis* (Ell.) Moq.

The patch, several feet across, by the river bank at the broadest part of the marsh, and the only place observed where the plants grow, is now in good fruit.

robustus Pursh

X (91) *Scirpus caespitosus* Britton, var. ~~*Yanovi* (Britton) Britt.~~

From the same spot as on Aug. 16, an area several rods in extent

X (23) *Polygonum ramossissimum* Nutt., ^{vide S. & R. Nov 2/12.} *forms albuminum* Robinson
Collected at the south end, abundant along one of the ditches (north & south). - I think the former plant (23) is this species also.

X (38) *Cuscuta Gronovii* Willd.

(Occasional)

X (31) *Potentilla mono-paliensis* L.

Drump at n. end former part of marsh.

Caulbrook, Mass.

1912

Aug. 27

(6)

New species from the marsh -

- X 104 Panicum capillare L.
Frequent on northern border -
- X 105 Spartina glabra Nutt. var. alterniflora (Lindl.) Merr.
^{collected 105' on 105 1/2'} Frequent at n. end of ditch ^(See F. T. Hubbard Oct 30/12)
- X 105' Spartina glabra Nutt. ^{new var. pilosa Merr.} n. end of ditch with 105
(See F. T. Hubbard, Oct. 30/12)
- X 106 Juncus tenuis Willd.
middle of marsh.
- X 107 Polygonum pennsylvanicum L. var. virg. n. end of ditch.
In great abundance over the northern third.
I examined many plants -
- X 108 Polygonum Hydropiper L. var. virg. n. end of ditch.
Single plant in s. portion
- X 109 Cheopodium ambrosioides L.
Dump at n. end, former part of marsh
- X 110 Salicornia europaea L.
One patch, about a foot across of some 2 dozen plants in ditch in middle of marsh.
- X 111 Oenothera biennis L. var. virg. Bot. Club. Hb. of W.D. Oct. 29/12.
Scattered near river bank.
- X 112 Datura Stramonium L.
Single old plant on dump, n. end, former part of marsh.

Cambridge, Mass.

1912
Aug. 27
(7)

x 113 *Aster novi-belgii* L.
Single large plant, extreme s. end -

x 114 *Pluchea camphorata* (L.) DC.
2 or 3 plants in middle of marsh.

x 115 *Xanthium echinatum* Murr.
Single plant on dump, n. end, formerly
part of marsh.

x 50 *Bidens frondosa* L.
Abundant at mouths of ditches and along
the river banks - large plants - This takes
the place of the previous 50 *Bidens* sp. flower.

x 116 *Bidens discoidea* (L. & G.) Britton.
One or two plants border of ditch near river
about midway on marsh. Flower.

x 117 *Bidens conoidea* Nutt.
One or two plants border of ditch near river
about midway of marsh, very large. Flower

118 *Ailanthus glandulosa* Desf.
Plant 5 or 6 ft high on marsh, s. half.
Should come before 111.

x 118a *Arctium minus* (Hill) Bernh.
north end of marsh on filled land.

1912
Aug. 31
(1)

Cambridge, Mass.

Trip to the marsh back of Stillman Infirmary.

I spent the morning on the marsh again with box, rule & trowel. I went over the whole extent observing, collecting and taking notes on the sizes of some of the plants. The new-comers are as a rule very vigorous and, as I have noted before, many of them quite usurp the tracts that they occupy. All the Juncus Gerardi is cut and removed and, as this occupies at least a third of the territory, there are open areas scattered throughout.

On the west the marsh extends very close to the steep rise of the Cemetery and the hill just north. In my list of plants I include those growing about ten feet from where there is a very slight rise on the marsh's edge. The marsh extends very near, if not quite to this line which is of course somewhat arbitrary.

I collected to-day 48 sps., 17 being new -

I saw on the marsh this morning:

- 1 Crow, 5 or 6
- 2 Bronzed Grackles, 2 or 3
- 3 Red-winged Blackbirds, at least a thousand in a large flock on border of marsh & adjoining pond; noisy.
- 4 Hooded Merganser, 2 or 3 uttering nasal peent.
- 5 Savannah Sparrow, 2, short flight & squatters under bushes or alighting on low shrub; silent.
- 6 Sparrow Hawk, 3 or 4 soaring & flying rapidly.

Cambridge, Mass.

1912

Aug 31
(2)

Notes on species already recorded:

- X (3) *Polygonum crispus* L.
I still see a little of this off the bank of the river, and a good deal in some of the ditches at the S. end.
- X (9) *Spartina Michauxiana* Hitchc.
I took a specimen from a fine clump at the north end.
- X (14) *Phleum pratense* L.
Some on extreme western edge.
- X (19) *Juncus Gerardi* Loisel.
I took a specimen for record in the middle of the marsh on the edge of a patch.
- o (21) *Betula populifolia* Mill.
Frequent of banks of river and creeks.
- X (26) *Atriplex palata* L., var. *hastata* (G.) Gray.
Frequent over the marsh, on borders of creeks and even in the middle of an area of *Juncus Gerardi*.
- o (28) *Lepidium virginicum* Lo.
Very abundant throughout. Plants very large. The specimen taken was comparatively a small one, but I trimmed it, as it was so very dense.

Cambridge, Mass.

1912

- Aug. 31 x(29) *Trifolium pratense* L.
(3) Considerable on extreme w. edge.
- x(30) *Trifolium hybridum* L.
On extreme w. edge.
- x(32) *Potentilla* [^{not} *Custerina* L.] *pacifica* Howell. first in N. H. May 21/15,
Very abundant in ditches & along river bank.
- x(37) *Cicuta bulbifera* L.
Very frequent along river bank & ditches.
- x(39) *Lycopus americanus* Nutt.
Abundant throughout.
- x(40) *Linaria vulgaris* Hill
Frequent throughout.
- x(41) *Linaria canadensis* (L.) Dumort.
The plants are astonishingly vigorous and large.
- x(43) *Plantago decipiens* Barneoud
Scattered over the marsh.
- x(46) *Erigeron canadensis* L.
Abundant on extreme w. border.
- x(48) *Grapholium polycephalum* Michx.
Scattered over the area.

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Cambridge, Mass.

1912

Aug. 31^x (49) *Composita artemisiifolia* L.

(4)

Frequent on extreme w. border.

x (54) *Erechtites hieracifolia* (L.) Raf.

I noted this from the ridge of the Cemetery and I should say that it covered half of the s. half of the area, besides being extremely abundant in close patches in the w. half - also ~~xx~~ scattered here & there.

x (56) *Cicorium Intybus* L.

Occasional throughout.

x (58) *Sonchus oleraceus* L.

Very frequent throughout. Spun taken 3 ft. high _{by microscope}

x (60) *Lactuca scariola* L., var. *integrata* Gray & Coon

Especially abundant in the s. portion growing densely and very tall & triflorous I measured one plant 6 ft. + 10 in. high and it stood up but little above the rest.

x (65) *Echinocloa crusgalli* (L.) Beauv.

Frequent on extreme w. border, and occasional throughout. }
Two species here. 2 spms. coll'd. }
E. crusgalli (L.) Beauv. }
E. muricata (Michx.) Fernald } May 21/15 }

x (81) *Taraxacum officinale* Weber

Occasional. I observed two plants on the marsh in s. end - they were enormous. The one from which I took leaves & stems was 30 in. in diam. & 2 ft. high, and was a solid mass of leaves -

Cambridge Mass

- 1912
Aug. 31 x(82) *Chenopodium album* L.
(85) Occasional in the marsh.
x(93) *Radicula palustris* (L.) Wrench.
A single plant on bank of river
midway between an & s.
x(98) *Verbena hastata* L.
A number of plants in s. end, near border.
(in wet ground)
x(101) *Solidago altissima* L.
A few in n. end.
x(102) *Aster labulatus* Michx.
Abundant - Height as high as 4 ft. by measure.
x(108) *Polygonum* ~~ace~~ ~~HBK.~~ *Hydropiper* L. See B. L. R.,
no. 2, 112
A vigorous plant on river bank midway.
x(118) *Cilanthus glandulosa* Desf.
From the plants of Aug. 27.

Cambridge, Mass.

1912

Aug. 31

(6)

List of new plants in the marsh.

- x 119 Digitaria sanguinalis (L.) Scop.
Abundant on w. border of n. end.
- 17
- x 120 Setaria glauca (L.) Beauv.
Some on w. border.
- x 121 Agrostis rosea L., var. rufipes (Witt.) Thurb.
Single clump I took from the dense clump
a stem and shoot. (See F. T. Whittell, Oct. 30/12)
- x 122 Agrostis hygumalis (Walt.) B&P.
A single plant on river bank in wet mud.
- x 123 Carex sativa L.
Several plants on w. border.
- x 124 Aprocyron repens (L.) Beauv.
Occasional throughout. Recented under 15.
- x 125 Asparagus officinalis L.
Two plants on w. edge of s. end.
- x 126 Melilotus alba Desr.
Single plant on w. border.
- x 127 Polygonum sagittatum L. out of order.
Single plant, river border, midway.
- x 128 Leersia oryzoides (L.) Sw. out of order.
Single plant, river bank, n. end.

Cambridge, Mass.

1912
Aug 31
(7)

- x 129 Rumex elongatus Sum. out of order.
Salt marsh. I have noted R. crispus,
also, and must assume the comparative
abundance of the two species.
- x 130 Epilobium aduncum Horsk. side W. release, Apr. 12/1913 ✓
side B. L. Robinson, Oct. 26/12
Very abundant ^{in fruit} on w. border of south end.
- x 130a Epilobium coloratum Mill. side W. release, Apr. 12/1913.
a little in flower & young fruit with 130.
- x 131 Oenothera muricata L. Mr. N. Z. Scott Club H. 6, N.D. Oct 29/12. ✓
River border, occasional and some throughout.
- x 132 mentha arvensis L.
Three or four plants together near river bank midway.
- x 133 Solidago aspera Ait. = S. rupestris Mill. var. aspera (Ait.) ✓
Phyt. xvii. 7/1915. Fernald
Two plants on marsh, w. end.
- x 134 Anaphalis margaritacea (L.) B. & H. ✓
A few plants, w. border.
- x 135 Leontodon autumnalis L.
Occasional. Specimen collected very
vigorous, in center of marsh where Truus
Gerardi had been cut.

x Hem. Weigand says to-day, Nov 16/1921. That that is O. bicumis
He finds that the red capitate at base of hairs are no
character. Pubescence of under surface of leaf is a character.
He is not ready to publish yet - W.D.

121

A trip to Newburyport, Mass.

1912
Sept. 1
(1)

Bright, sunny morning, clouds by noon,
raining afternoon and evening -

A day with Albert W. & Edith Rantoul & family.

I took the 9 A.M. train, North Station for Newburyport, reaching there shortly after ~~ten~~ o'clock. Mr. Rantoul, ~~Edith~~ & Robert met me at the station. We mounted to High St and walked to the house (85 High St) where I was greeted by Edith and Mr. Rantoul, senior. The house is a large double one, formerly an academy, and sits high above the street, some distance back. The house is approached by a path and flight of steps, common to both houses, the Rantouls occupying the western half, which belongs to a cousin. The house is large and roomy and there is a long strip of land behind, partly occupied by a very attractive garden.

Before dinner five of us (Mr. R. senior, A. W. & Plum Island) Edith, Robert & I) took the electric car to Plum Island. It was an extremely interesting ride. As we left the city close by the river (Merrimack) we passed a row of very small old shanties, each with a single room, just above high tide level, where the clam diggers shell their clams which they get on the neighboring flats. These people would crowd me if these little buildings.

Leaving these clam huts we were soon

A Trip to Newburyport, Mass.

1912
Sept, 1
(2)

moving rapidly east toward the shore, some two or two and a half miles off. On ~~off~~ left, or to the north was the river, quite near its mouth, very broad and picturesque. On our right were vast stretches of salt marsh, the grass all cut and slacking in countless cocks on the staddles always there to receive them.

Before us stretched Plum Island, narrow and long, parallel to the shore and quite near it, the channel that separates it from the main land, being called Plum Island River, a narrow piece of water entirely tidal. Boats and steam launches pass through it. An car passed over a bridge on to the island, passed the Plum Island Hotel and then turned north and west to the end of the island, a distance of from 1 1/2 to 2 miles from the point where we crossed on to the island, this portion of the island is lined with small cheap dwellings, fantastic little buildwics that seem too small to live in. People were sitting in front of them at their leisure and they are popular resorts for the poorer class of people. The houses are surrounded by sand, sand, sand, and Beach Grass, and most all of them have quaint names, conspicuously painted on the fronts of the houses or on a board, fastened to the house. I jotted down a number of these names.

A Trip to Newburyport, Mass.

1912
Sept. 1
(3)

Some of them are quite appreciable, their ^{form} for it. Here is a list:

Bohemia, Wickado, Buena Vista, Comfort, Overlook Cottage, Villa Tivoli, Oasis, Columba, Red Feather, Naumkeag, Pocahontas, Castilian, Julian, Heather Flower, Wave Crest, Wrenant, Carpet, North Star, Vincent, Berne, Charles, Mary, Ida, The Iceland, Minnie E., Sea Gull, Pebble, Aleppo, Hilton, Island Home, Rosella, Beadwood, Allen, Crescent, Tokyo, Belknap Cottage, Hedra, Waram, Ashton, Geista, Grace, Mecca, Annie, Wosemonk, Rinkoo-tee, Shawsheen, Comet (an old transformed horse-car!).

This is a quaint array of names -

We went on the car to the extreme northern end of the island where there is a small lighthouse, this point being the southern boundary of the river mouth. The island is about 8 miles long, and its widest ^{portion} is not more than half a mile, while at the point where we crossed to the island it is not wider than about 350 yards. From this point the long sandy barren stretch running south reaches to the mouth of the Ipswich River. I noticed some high sand dunes to the south much like the Ipswich Dunes. No sign of life was seen to the north, but the extension of the railroad in that direction would cause more shanties to spring up without any doubt. On the western shore

A trip to Newburyport, Mass.

1912
Sept. 1
(4)

of the island there is a good deal of salt marsh and at the extreme southern end is an eating house frequented by parties who sail over -

The island is in four towns, Newburyport, Newbury, Rowley & Ipswich, from north to south.

In the middle of the Merrimack River just above its mouth is a rather large pointed beacon, painted red. This is locally called 'Ben Butler's toothpick'. I was told that Butler got a government appropriation for river improvement, and not knowing what to do with it, spent part of it in this beacon -

We returned as we went and were quite ready for dinner - Unfortunately heavy clouds came up by noon and in the early afternoon some came the rain steadily for the rest of the day - This prevented a drive that had been planned, but it could not be helped and we passed a pleasant afternoon in the parlour by a roaring log fire. I forgot to mention that during our morning ride to Plum Island it was so cold that I had my overcoat on and buttoned up to the neck. We had a nice talk during the afternoon while Robert and Albert played about.

After a hearty supper Mr. Rantoul & I drove to the station, after I had bidden my friends good bye. The train came along about 7:30, I bade Mr. Rantoul good bye and by 9:15 I was safely at home -

Cambridge, Mass.

List of plants collected by Henry
1912 A. Purdie in New Hampshire and Eastern Massachusetts
Sept. 2, between July 31, 1903 & Oct. 29, 1905, and found among his possessions

(1) by his sister Miss Evelyn Purdie, after his
death, and, on April 17, 1912, presented to me.
A few specimens without data were destroyed
by me. The labels are in pencil, and I have
added labels written in ink. I have kept
representatives of these species for my herbarium.
There were 120 sheets, representing the species
mentioned in the following list:

- 1 *Phegopteris polypodioides* Fée
- 2 *Adiantum pedatum* L.
- 3 *Asplenium trichomanes* L.
- 4 " *acrostichoides* Sw.
- 5 *Polystichum Braunii* (Spreng.) Fée
- 6 *Aspidium simulatum* Davenport.
- 7 " *Footii* Tuckerm.
- 8 " *cristatum* (L.) Sw.
- 9 " ~~*spinalosum* (O. F. Müller) Sw.~~
- 10 " *cristatum* (L.) Sw.;
- 11 " " var. *Clintonianum* D. O. Eaton.
- 12 " " var. *intermedium* (Muhl.) D. O. Eaton
- 13 " " var. *concordianum* (Davenport) Eastw.
- 14 *Cystopteris fragilis* (L.) Bernh.
- 15 *Woodia ilvensis* (L.) K. Br.
- 16 " *obtusum* (Spreng.) Torr.
- 17 *Lygodium palmatum* (Bernh.) Sw.

Cambridge, Mass.

1912
Sept. 2
(2.)

List of plants collected by Harry A. Purdie.

- 18 *Botrychium ramosum* (Roth) Cochers.
- 19 " *obliquum* Mull., var. *dissectum* (Spreng.) Clute.
- 20 *Lycopodium Selago* L.
- 21 *Spharagnum fluctans* (Moring) R. Tinsou.
- 22 *Sagittaria Engelmanniana* J. G. Sm.
- 23 *Smilacina trifoliata* (L.) Desf.
- 24 *Habenaria Hookeri* Torr.
- 25 *Castanea dentata* (Marsh.) Borkh.
- 26 *Polygonum Muhlenbergii* (Wesm.) Watson
- 27 " *virginianum* L.
- 28 *Oxybaphus nyctagineus* (Michx.) Sweet.
- 29 *Hesperis matronalis* L.
- 30 *Potentilla arguta* Pursh
- 31 " *recta* L.
- 32 *Geum strictum* Ait.
- 33 *Prunus cuneata* Raf.
- 34 *Desmodium Dillenii* Darl.
- 35 *Lepidesea Nuttallii* Darl.
- 36 " *hirta* (L.) Hornem.
- 37 *Vicia tetrasperma* (L.) Moench.
- 38 *Linum virginianum* L.
- 39 " *medium* (Pauk.) Britton.
- 40 *Polygala sanguinea* L.
- 41 *Hypericum punctatum* Lam.
- 42 *Viola pedata* L., var. *lineariloba* DC.
- 43 " *tricolor* L.
- 44 *Sium cicutifolium* Schrank (S. Carsonii Durand)
- 45 *Chiochens hispidula* (L.) T. & G.

Cambridge, Mass.

1912
Sept. 2
(3)

List of plants collected by Henry A. Purdie

- 46 *Lysimachia thyrsiflora* L.
- 47 *Asclepias quadrifolia* Jacq.
- 48 *Pycnanthemum flexuosum* (Walt.) B.S.P.
- 49 " *virginianum* (L.) Durand & Jackson
- 50 " *nuticum* (Michx.) Pers.
- 51 *Scrophularia marilandica* L.
- 52 *Rhinanthus crista-galli* L.
- 53 *Galium aparine* L.
- 54 *Solidago Purdiei* (Pursh) Britton, var. *monticola* (Pursh) Fernald
- 55 " *arguta* Nutt.
- 56 " *ulmifolia* Muhl.
- 57 X " *asperula* Desf.
- 58 *Aster Herveyi* Gray
- 59 *Senecio Balsamitae* Muhl., var. *poaeolagus* Greenman.

Quercus

Second trip to Taunnet, Mass.

1912

Sept. 4

Rain in early morning, fog clearing, sun out bright by 11 A.M., rest of day clear, sunny, ideal

Red Rand & I repeated our trip of Sept. 25, 1909, and visited W.W. Bailey at Taunnet, Mass., his summer place - We went as before, 2.04 A.M. from South Bay, Boston, reaching Providence at 7.00; 10.30 by the electric road from Providence, reaching Taunnet a few minutes after 11. I described the electric road and the route before. It is a pretty run along the edge of the Bay. The shore is very rocky, and there are a number of small islands just offshore, and the water is dotted with sails.

Bailey met us at Taunnet station and we walked over to his house close by where May greeted us. She is now joined a young lady, 26 years old, and a very bright, attractive girl - Mrs. Bailey is in Providence with her sick mother. We sat in the living room and talked till dinner after which we four started off for a walk. May being our guide.

We walked a short distance up the road and then entered the fields and soon were in a lovely wood where were some very fine Elms, Chestnuts (some of them doomed are long), a splendid White Oak, and other interesting trees. At one time a Fish Hawk *Ceryle* soared over our heads.

Second Trip to Tourist, Mass.

1912
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(2)

The prevailing rock is puddingstone, and there are more large outcroppings, some picturesque masses in the woods. Meg took us to a cave, consisting of a rent or series of rents in a huge, massive boulder. Meg & Rand easily, I, with difficulty, by a side movement, slipped in, where the cleft was from two to three feet wide. Some twenty feet in, you turned to the left and by a somewhat similar passage emerged into the open air. This boulder was puddingstone. It was covered thickly over portions of the top with *Polypodium vulgare*.

We collected a number of plants for the New England Botanical Club Herbarium, which I shall list at the end. On our return we reached the bog near the railroad track where we formerly found such a rich harvest of *Myriophyllum seabrothii*.

Myriophyllum
seabrothii

The bog has been much stained by a culvert under the near railroad embankment, and I did not know what effect that would have on the plants. The area was very much drier than before and one could easily walk over it. To our astonishment the *Myriophyllum* was more vigorous than ever and the plants were very much larger. It was a very beautiful sight to see this immense quantity of such fine specimens of this rare and dainty little plant. My enthusiasm knew no bounds and I collected a good deal of

Second Trip to Tourisset, Mass.

1912
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(3)

of it. Even a good deal occupied a comparatively small space in my box. [I examined carefully to-day, Sept. 5, the floral structure of this plant with the fresh specimens. The plants I examined were monoecious and polygamous. The ♂ flowers had a four-lobed, strongly recurved calyx and 4 stamens. The ♀ flowers had a four-toothed calyx and a four-angled ovary with a tufted stigma at each corner. In some of the ♀ flowers I saw the stamens with long filaments, 3 or 4 times as long as the ovary. The plants bore well-formed fruit, but it is still green. It was 3 weeks when we got it in 1909.]

Sidaea laevis was scattered over the moist places in the fields and in one rather muddy run there was much *Ludwigia palustris* forming a dense mat. Near by was *Proserpinaca palustris* in abundance. That is a near relation to one by *scabrata*.

I was jolted a good deal for my excitement over the Water Milfoil, but at last I was drawn away from it and we went back to the hotel with our two boxes well filled. Mine certainly was. Our walk had occupied about two hours and we sat on the piazza, I in a hammock, engaged in pleasant conversation till six. Then Mrs. and her mother up to the station. The 6.20 train took us to Providence, ^{where we had our supper,} and the 7.30 to Boston. At 9 P.M. I was at home after one of the pleasantest days this past summer.

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(4)

List of plants collected by E. L. Rand and W. Deane in the afternoon during a stroll with Prof. W. W. Bailey & Mrs. Bailey north of the railroad track, through the woods, fields and some low ground.

All species presented to N. E. Bot. Club except those marked X which were in the collection of Sept. 25, 1909.

Species marked > are in herb. W. Deane.
" " X were presented to Gray Herb.

- *Polypodium vulgare* L. On R. ? conglomerata in woods
- *Muhlenbergia mexicana* (L.) Trin. Dry ground.
- *Carex virescens* Muhl., var. *lucanii* Fernald Shade.
- *Carex lupulina* Muhl. Wet ground in woods.
- *Arisaema triphyllum* (L.) Schott. Fruit, damp shade in wood.
- *Epipactis pubescens* (Willd.) A. G. Eaton. Shade.
- *Pilea pumila* (L.) Gray. Damp shade.
- *Polygonum acre* HBK. " " in S. L. G. Aug 2, 1912.
- " *hydropiperoides* Michx. " field.
- " *sagittatum* L. Low ground.
- *Berberis vulgaris* L. Roadside June fruit.
- *Sisymbrium altissimum* L. Single large plant, waste ground.
- *Rosa virginiana* Mill. Dry roadside.
- *Viola pallens* (Banks) Brainerd Shade.
- " *conspersa* Reichenb. Shady woods.
- *Ludwigia palustris* (L.) Ell. Soft mud in woods.
- *Myriophyllum scabratum* Michx. Bog of clayey mud. Abundant
- *Chimaphila maculata* (L.) Pursh Dry woods.
- *Imnortropa hypopitys* L. Rich wood.

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(5)

- Aedocoma paleooides* (L.) Pers. dry field
- Lycopus uniflorus* Michx. damp ground.
- Epipafus virginiana* (L.) Bart. woods.
- Veronica noveboracensis* Willd. damp field.
- Solidago caesia* L. dry roadside.
- " " " var. *paniculata* Gray. "
- x → *Sidaea laevis* (L.) BSP. damp field.
- * *Matricaria suaveolens* (Pursh) Buchenau. Roadside
- x → *Botrychium obliquum* Mull. shady woods.
- " " " var. *dissectum* (Spray) Chitt. shady woods.
- x → *Polygonum dumetorum* L. ^{var. B.S.P. / var. 2/12} moist ground.
- ※ → *Proserpinaca palustris* L. muddy ground in woods.
- ※ λ *Hypericum mutilum* L. Bog,

32 species.

26 species in Herb. N. E. Bot. Club.
 4 " " " Gray
 19 " " " Walter Deane.

1912
Sept. 4
(1)

Poem by W. W. Bailey on Sept. 4, 1912,
when E. L. Rind and I visited him at Tourisset,
Mass.

- A Ballad of Tourisset -

Two comrades of the N. E. Club,
One morning left the famous Hub,
In order they might visit
An ancient member of the Clan,
A quiet, but facetious man,
Residing at Tourisset:

As they were travelling alone,
They bought their tickets by the "zone";
It seemed to give the trip a cone,
So "under Providence" they came
To Bailey's cottage, found him lame,
So, took his daughter as a guide
To search the forest far and wide,
But this was after dinner,
At which they sipped some juleps nice,
Concocted both of mint and ice,
And beamed with boyish glee,
Yet, ere we started out,
The boys, they looked about,
To see what they could see,
And there on Bailey's Canon they found
A Matricaria on the ground,
A brand new plant to me;
I'd thought it all the time, Maruta,
Without the rays, or stalks, - a wonder,

1912

Sept. 4

(2)

But now I must agree
Their eggs are sharper far than mine;
They have the joke on me,
For later in the day
They pulled a new *Lisymbium*
That grew beside the way
Adorned with long and narrow pods,
And swore by the immortal gods,
It was a true "stray".

Still other ventures did befall;
They helped poor Bailey o'er a wall
That he had failed to climb at all,
While Deane within a cave
Was squeezed to light
He feared he never would see light,
And called on Meg to save
Lest he a fossil should abide
Unrescued e'en by time or tide,
Till in remotest age
Some one should scan this page.

But prouder than all record still
Was yonder box of *Myrio-plu-*
lum found by Walter Deane,
Much better than when last 'twas seen
By him and us in 1909 -
Tho' then we thought it very fine.

1912
Sept. 4
(3')

Though nothing can him alter
You should have seen "Our Walter"
As down he fell supine
And cried out, "This is fine!
You could not find a greater
Than this 'ere old Scabrata,
It is the very Peter
Of all its watery tribe -
Consult F.I., The Scribe!"

Thus endeth, Don't you miss it,
The lay of fair Touisset.

W.W.B.,
Sep. 28, 1912

Touisset, Mass.

1912

Sept. 6

A Ballad by W. W. Bailey written to

(1) Commenced Sept. 4, 1912 -

" A Ballad of Deave -

We had not walked
 A mile, a mile,
 A mile but barely three,
 When we observed
 Deave wore a smile;
 A beaming smile wore he;
 The Myriophyllum boy he saw,
 At once he gave a lumpy cuffaw,
 His heart was filled with glee,
 'The dear, delicious thing!' he cried,
 'How precious 'tis to me!

'Had I this boy near Boston town
 I'd bet a dollar or a crown,
 Each fellow of the club would fill
 His vasculum, collecting till
 No Halocarpus spire remained
 To mark where once
 I've beauty signed!

With this one water
 Plunged ahead
 Into a big Scabratum bed,
 And he cluck! cluck!
 He lost his balance

Tourisset, Mass.

1912
Sept. 6
(2)

And he fell
Supine; that's on his back.
A mercy he was not alone
Or maybe he had fallen prone.

And yet no mud unto him stuck
Of all the Myriophyllum muck
It was so clean and nice,
He filled his box
And then again
Behold, he crammed it twice!

Withal I had proposed to say
Adventures strange he had that day,
Was squeezed mid-way a cave,
And scratched his watch
And little 'tun'
And almost wished he hadn't come,
So ends this truthful stave. "

Done at Tourisset
The sixth of Sept-1912 - by a
Part Craftsman - one W.W.B.

Cambridge, Mass.

1912
Sept. 12
(1)

A trip to the marsh back of Stillman Infirmary.

This afternoon George & I spent nearly 3 hours on the marsh. I took with me my botany box, trowel and a rake. The trip was as interesting as ever. I noted the plants previously observed and, as usual, I collected a good many, several being new to the marsh, according to my observations. Fall is now fast setting in, and vegetation is fast dying while a few late species are flowering - We traversed the entire length north & south and followed the river banks a good part of the way. The main area of the marsh is getting barren now, the grass, including Black Grass (*Juncus Gerardi*) having been cut and removed and the large areas of *Lactuca scariola*, var. *interposita* covered with the rapidly dying plants. The Fireweed (*Cirsium discolor*), which also occupies extensive areas is fast turning off its fruit and, save long, will be dead. The rake was of a good deal of help in securing *Sagittaria*, *Bidens* and other plants from the wet places. Fragments of *Potamogeton crispus* lie on the river border, while there is a mass of the decaying plant in one of the ditches near the southern end. I don't think I can collect much more. There are still a number of species observed & recorded that I have no specimens of.

Concord, Mass.

1912

Sept. 12 Observations on species already recorded,

(2) X = specimen collected

(1) *Typha latifolia* L.

It is dense at several places in the weed
along the shore and in a ditch at the south
end and in a wet place in the marsh.
There was considerable fruit earlier but it has
been taken.

(3) *Potamogeton crispus* L.

Still lingering offshore, and very abun-
dant in decaying water in one ditch at
the south end.

X 135'
X 135 1/2'
X 135 3/4'

Sagittaria latifolia (Willd.) Yama obtusa (Muhl.) Robinson } - number of plants in ditch
" " " " hastata (Pursh) " } at S. end. Fins S. L. Robinson & W.D. Long, 1/2.

X (4) *Sagittaria latifolia* (Willd.) var. *hastata* (Pursh) Robinson

Presumably this form from ditch. S. end -

(66')
X (5) *Spartina patens* (L.) Muhl. var. *juncea* (Muhl.) Hitchc. Marsh. in leaf. Scattered
(See also Hubbard, Oct. 30/12) -

X (13) *Phalaris arundinacea* L.

A clump several ft. in diam. east end of center

X (18) *Lemma minor* L.

Abundant in ditch, south end.

X (23) *Rumex crispus* L.

I examined carefully many plants scattered
over the marsh where it is abundant and
find the two species *crispus* & *elongatus*
about equally distributed.

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1912

- Sept. 12 X(25) *Polygonum Persicaria* L. Side B.L.R. no. 2/12.
(3) On marsh near border -
- X(33) *Rosa rugosa* Thunb.
A fl. spr from shrub of July 17.
- X(35) *Epilobium angustifolium* L.
One or two low plants in center of marsh.
2 ft. high by measurement.
- X(42) *Plantago major* L.
South end of marsh by ditch -
- X(44) *Solidago sempervirens* L.
Frequent, creek borders -
- X(47) *Baccharis halimifolia* V.
There is much of this shrub along the
border of the river and of the ditch
at S. end up the Cemetery + running n. & s.
Both sexes are now in flower -
- X(52) *Achillea Millefolium* L.
On marsh -
- X(53) *Artemisia vulgaris* L.
Abundant on waste land edge of marsh,
n.w. end, where was marsh formerly.
- X(58) *Sonchus oleraceus* L. Abundant on marsh ✓
I examined many plants and found all these sps.,
even some with quite rounded leaf lobes. *Acheneis digitata*

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1.9.12
Sept. 12
(4)

X(77) *Rumex acetosella* L.
marsh, border -

X(80) *Cirsium arvense* (L.) Scop.
Several small plants, ditch border in center
of marsh -

X(86) *Alisma Plantago-aquatica* L. ^{early stage, with floating leaves}
river mouth of ditch, about midway.

X(107) *Polygonum pennsylvanicum* L. ^{see B.L.R. no 2, 1912.}
north end edge of marsh on filled land.

(128) *Scirpus ozyroides* (L.) Sw. Large clump by water in end.

X(87) *Panicum dichotomiflorum* Michx. ^{near river bank, midway} ^{edge of marsh} ^{1 small plant.}
new species - _{no. 45.}

X136 *Zizania palustris* L.

Several plants in ditch, S. end. 8 ft. or more tall

X136' *Polygonum exsertum* Small, near border of marsh, ^{See B.L.R.}
_{no. 2/12.}

X137 *Plantago Rugelii* DCne.

north edge of marsh on filled land.

X138 *Aster novae-angliae* L., var. rotens (Desf.) DC.

north side of marsh on filled land, single plant.

X139 *Aster virginicus* Lam.

Several plants scattered over the marsh.

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Sept. 12

(5)

x 140 *Bidens cernua* L.

River bank about midway. several plants.

x 141 *Achillea Millefolium* L.

Border of marsh - one plant.

x 142 *Chrysanthemum leucanthemum* L., var.
pinnatifidum Decoz & Lemoine -
with seed on filled land.

Cambridge, Mass.

1912
Sept 22
(1)

Visit to the Charles River marsh.

This afternoon with the air crisp and the sun breaking through the clouds after several heavy drops, M. & I took a walk to the marsh back of Stillman Infirmary - we strolled over the northern end and went on to the large mound of barren soil by the river dredged up and put there some years ago - Motor boats were plying up & down the stream, the huge Stadium rose before us across the river and vast marsh extending from our feet made a most attractive scene. The vegetation on the marsh is fast passing away.

Notes on species previously recorded:

(3) *Potamogeton crispus* L.

Abundant against the blue, n. end, where it has drifted, having broken from its base.

(19) *Juncus Gerardi* Loisel

All cut & removed,

X (38) *Cuscuta Gronovii* Willd.

Found on *Celastrus non-belgicus* L. Occasional.

(44) *Solidago sempervirens* L.

Scattered plants in flower on marsh

Cambridge, Mass.

1912

Sept. 22

X(47) *Baccharis halimifolia* L.

(2)

I visited 3 clumps on the n. end
on the marsh. The ♂ fl. were by, the ♀ fl.
are showing more and more proflus.

(87) *Panicum dichotomiflorum* Michx.

This plant is now past & dead.

X(102) *Aster subulatus* Michx.

In fruit -

X(113) *Aster novi-belgii* L.

Several plants on n. end.

Cambridge, Mass.

1912
Sept. 25

(1)

This afternoon, with the air clear and crisp, and the sun shining brightly, I walked down to the Charles River marsh and wandered over a large portion of it, some two-thirds, examining the distribution of plants over the area. I found but one new plant, *Solidago nemoralis* Cist., on the marsh in the northern part - *Lactuca scariola* L., var. *integrata* Griseb. & Soderstr. has thrown its fruit and the plants are dead or dying.

Erechtites hieracifolia (L.) Raf. is rapidly discharging its snow-white pappus & fruit, and as I walked through the dense areas occupied by this plant growing over the grass-covered marsh, the area was snow-white from the fallen pappus.

I observed that scarcely any species is characteristic of the borders of the ditches that traverse the marsh at frequent intervals. Those that do grow there and near the water by the river bank are such species as require the moisture.

Those that I noted are *Potentilla Anserina* L., *Bidens* (var. sp.) and such sps. as live in or partly in water, *Alisma Plantago-aquatica* L., *Potamogeton* sps., *Sagittaria* sps., *Typha latifolia* L., *Alisma cannabina* L., *Najas flexilis* (Willd.) Rostk. & Schmidt, *Lismania palustris* L. (These marked * are not on river bank.)

I noted today a number of plants not particularly noted before as growing directly on the marsh areas occupied by the *Spartina* & *Juncus Gerardii*. I will list them in the usual way with observations!

Plants character-
istic of
ditches &
river banks.

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Sept. 25
(2)

(87) *Panicum trichotomiflorum* Michx.

Scattered over the areas covered by *Spartina*
& *Glyceria* *securi*. When growing on the grass turf
the plants are small - I measured one clump
on the river border on clear soil. It was
10 ft. in diam. and 5 ft high.

(21) *Betula populifolia* Marsh.

This tree grows on the marsh anywhere,
either on the river border or on the grassy
areas between the ditches. In my note of
July 17 (3), I was not broad enough -

(27) *Rumex crispus* L.

Scattered freely over the whole area.

(129) *Rumex elongatus* Guss.

Same as *R. crispus* -

(71) *Rumex acetosella*

Clumps of young plants of basal leaves
growing in the grass cut areas.

(26) *Citriplex patula* L., var. *caesata* (L.) Gray

Growing in the grass cut areas. It seems
as if plants growing this way would find
it hard to take root the grass is so
matted -

Cambridge, Mass.

1912
Sept. 25
(3)

- (31) *Potentilla norpeliensis* L.
Tufted leaves on the grass-cut areas.
- (29) *Trifolium pratense* L.
On the grass-cut area.
- (46) *Erigeron canadensis* L.
Scattered over the densely ^{compact} tufted grassy areas.
- (48) *Gnaphalium polycephalum* Michx.
Very abundant and vigorous over the densely tufted compact grassy areas as well as in more open soil.
- (81) *Taraxacum officinale* Weber
Many plants on the densely compact grassy areas.
- (58) *Sonchus oleraceus* L.
Abundant over the densely compact grassy areas as well as in more open soil.

Cambridge, Mass.

1912
Sept. 25
(4)

I collected the following, observed before:

x (87) *Spartina patens* (Michx.) Kunth (See F. T. Hubbard, Oct. 30/12)

I am interested in this form, that is abundant where I observed it at the northern end. The plants are very low and have attained their full growth. I got a fine specimen of rootstocks. Plants collected in the middle of July are very much taller.

x (88) *Distichlis spicata* (L.) Greene.

I observed ♀ specimens in considerable abundance at the n. end on the marsh on Aug. 16, I collected to-day specimens with leaves only.

x (103) *Polygonum aviculare* L. *prolificum* (Small) Robinson
See S. L. R. Mem. 2/12.
On the marsh n. portion -

x (54) *Erechtites hieracifolia* (L.) Raf.

A specimen in flower fruit. See note Sept. 25/11.

x (55) *Cirsium lanceolatum* (L.) Hill.

Fruiting specimen on marsh, n. end. A few plants on marsh.

New species -

x 143 *Solidago nemoralis* Ait.

On marsh at n. end on filled land. But little

Cambridge, Mass.

1912
Sept. 28
(5)

An extraordinary flock of Grouse Grackles.

As I was walking over the Charles River marsh I noticed that a very large flock of Grackles was assembling in the tall trees bordering the western slope and then flying down in groups on to the Nichols field and the adjoining ground. I walked over there and was astonished at their numbers. Conservative as we must be in making estimates of numbers, I do not feel any hesitation in saying that there were at least one thousand birds. They were quite tame and allowed a near approach, the nearer birds flying ahead and alighting further on. They covered the northern end of Nichols Field, running along on the fence and swarming in the waste ground that borders the western side of the marsh. As I approached a pulley which carries off the water by a system of drainoff from the Nichols field, which was a very damp spot not very many months ago, the birds at my approach rose in a black cloud, only to alight near the advance guard of this great flock. They were busy engaged in feeding and showed little inclination to leave. I finally left them there.

Cambridge, Mass.

1912

Sept. 28

This morning was crystal clear and mild
(1) and I went all over the Charles River marsh
with Mrs. F. N. McMillan - I have no new
observations of importance to record.

Whereas a few stretches of marsh in the
northern section, covered with either *Spartina*
patens (Ait.) Muhl., ^{and} *var. juncea*, or *Juncus Gerardi*
Loisel, are practically a quite ^{free} from other vegeta-
tion, the great bulk of the areas over
the marsh are covered with various species
of other plants invading the areas formerly
devoted to the two species above mentioned.
These two species still cover most of the
area, but they are quite obscured when the
invading growth is in full bloom -
Vegetation is fast breaking up now, and
I cannot do much more this season.

Notes on species already observed.

(3) *Potamogeton crispus* L.

Floating in great abundance near the shore.

X (91) *Scirpus* ^{*robustus* Rusch}
~~*campanulatus* Britton, var. *tenellus* (Cottrell) Bartlett.~~

In very ripe fruit, same station S. end.
seen at N. H. N. Z. Bot. Club, Oct. 25/12 by W.D.

X (73) *Acnida canadensis* L.

In good fruit, ditto, south end.

X (79) *Tanacetum vulgare* L.

Fruit, S. end. A clump of several plants.

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1912
Sept. 28
(2)

X(56) *Cichorium Intybus* L. ✓
I took a flowering specimen in s. end.

X(55) *Cirsium lanceolatum* (L.) Hill ✓
Flowering specimen in s. end, from a very
large plant mainly past fruit.

new species -

X144 *Aster lateriflorus* (L.) Britton ✓
A much branched plant, re-sprouting in the
midst of the marsh, where it had been cut
down with the Junco Gerardi.

X145 *Helianthus laetiflorus* Desv. var. Goldb. by me Oct. 29/12. ✓
I saw two vigorous plants growing close to-
gether on the edge of the marsh at the s. end
I took the top and a section just below the
middle of one plant. The few leaves below
were like those taken. The plant was
past flower - See B.G.R., May 13/10.

Trip to Tourisset, Mass.

1912
Oct. 2
(1)

Wonderfully clear, calm and bracing -

This morning, I met J.R. Churchill at his Boston office about 11.15. After lunching we took the 12.40 train, South Station, for Providence, arriving there at 1.53, and connecting with the 2 P.M. electric train for Tourisset, which we reached on time at 2.35. The trip was to introduce J.R.C. to Myriophyllum seabraeum which he had never seen. A short four minutes' walk from the station takes one to the bog that I have visited twice before, on Sept. 25, 1907, and Sept. 4, 1912, both times with C.L. Rice and W.W. Bailey, and on the latter occasion with May Society in addition.

The Judge was overjoyed at seeing such a Myriophyllum wealth of the Water Milfoil and we spent seabraeum a very delightful hour and a half on the spot collecting this most attractive little plant, besides a number of other species in the immediate neighborhood. We never moved more than a few rods from one spot.

The Myriophyllum is in finer condition than ever, the plants larger and in fine fruit. It covers the boggy area with a beautiful green sward which would be quite continuous except for cow tracks over it. The culvert recently built under the roadbed of the electric road close by has drained very much the area covered by this plant, while the constant tramping of the cows whose feet sink several inches into the

Trip to Taunset, Mass.

1912

Oct. 2 mud, stamping on the plants, is doing
(2) The plant is in reasonably near extinction.
The *Myriophyllum* is growing on a thick,
clayey mud, unoccupied by any other vegetation,
as a rule, and the mud, when squeezed by the
hand, retained the form given it, and scarcely
moistens the hand. The mud seems doughy.

We collected some interesting *Polygonum*
and *Junci* and we found very large fruit-
ing heads of *Peltandra*, besides some other
sp. I partly filled my small botany box which
is all I took with me. I shall list the
species collected.

We took the 4.13 electric back to Provi-
dence and the 5.10 to Boston. The many
views of the deep blue water were exquisite,
and we saw between Taunset & Providence
much Poison Dogwood in deep color.
I left V.R.C. at the South Bay Station in
Boston at 6.20 (on time) and reached
home at 7 P.M. ready for supper.

There was not a drop of water near
the bog and I spent some time this
evening washing my plants, and getting
them ready for the press tomorrow.

I should say that the *Myriophyllum scabraeum* extent of
covered a half acre, a large portion of ~~that~~ *Myriophyllum*
near the railway embankment occupied by the plant *scabraeum*
alone, the ground beyond being covered more & more
by other low vegetation.

Trip to Tourisset, Mass.

1912
Oct. 2

(3) Plant collected. They were either in the bog by the track near the station or on the margin of it. No water in the bog.

- 1 *Peltandra virginica* (L.) Kunth
Fruiting plants - In mud, no open water
- 2 *Juncus marginatus* Rostk.
Next sandy border of bog.
- 3 *Juncus articulatus* L.
Sandy, moist border. Plants sending out runners rooting at intervals.
- 4 *Carex virescens* Nutt., var. *Swanii* Fernald.
Sandy border.
- 5 *Polygonum Hydropiper* L. (side B.L.R. ✓
6 " *acre* HBK. ✓
7 " *hydropiperoides* Michx.) ✓
Bog most muddy wet.
- 8 *Polygonum scandens* L. (side B.L.R. Nov. 2, 1912. ✓
Border of bog.
- 9 *Hypericum, mutilum* L. ✓
Fruiting plants, sandy border, leaves red.
- 10 *Ludwigia palustris* (L.) Ell.
Bog on mud. Dead ripe.

Trip to Wachuset, Mass.

1912

Oct. 2

(4)

- 11 *Myriophyllum scabratum* Michx.

This very dainty and choice plant is now in seed ripe fruit. The fruit is beginning to fall, the lower ones going first. The plants are larger than I have ever seen them, and they carpet the surface of the bog in places with unbroken green. I have spoken of this plant in the account of the day.

- 12 *Bidens laevis* (L.) B.S.P.

This species which was in flower on Sept. 25, 1909, & Sept. 4, 1912 is now in fruit - 200-

- 13 *Juncus acuminatus* Michx.

Sandy, moist, border of bog.

Cambridge Mass.

1912
Oct. 5
(1)

- Trip to Charles River Marsh -

It has been a wonderfully clear, calm, warm summer day. This morning I went down to the marsh again this time with a rake to secure one or two water plants. I was joined by a Harvard student, Arthur Bentley See of Crawford, N. J. He was taking a convalescent's walk from the Infirmary where he had been having his courses removed. He is a junior, having entered in 1908 but having been handicapped by illness. We kept together during my trip and I enjoyed him very much, while he said he had thoroughly enjoyed the walk and talk.

The marsh is assuming a decidedly fall aspect. *Cistis nori-belgii*, *Sagittaria arifolia*, are in flower, though most of the latter which is widely scattered over the area has gone to fruit. I have examined the stems in vain for *S. aspera*. There are masses of *Potamogeton crispus* floating along the shore of the river. I was too late in visiting the plants this year to find out whether they flowered and fruited. My first visit was on July 17 and it is many years since I was there before.

The marsh is part of the Metropolitan Park and, at any time, the area may be taken and turned from its present condition to more fashionable uses.

A *Fulica americana* was on the river near the shore when I was there. *Fulica am.*
interrupted. Amer. Coost.

Cambridge, Mass.

1912
Oct. 5

(2) Observations on plants previously collected
on water -

(3) Potamogeton crispus L.
washed on floating patches along the shore

(47) Baccharis halimifolia L.

The shrubs are fruiting but have not yet ripened. There is no doubt, according to Mr. C. C. Davis with whom I talked Oct 4 at our Bot. Club meeting that the plants of this species growing on the marsh came from seed from the plants along the border of Mt. Auburn St. The wind carries from the foot of Spaulding St. over the iron fence some distance toward Hawthorn St. It was set out some years ago.

x (90) Cyperus ferox Richard.

This is very abundant in wet places and is now very ripe. I took some in the w. end - While preferring the borders of the ditches & river, it also grows on the marshes.

New species

x (86) Alisma Plantago aquatica L.

Plant with floating leaves at mouth of ditch, same locality as specimen of Sept. 12.

New Species -

x 146 Potamogeton cordata L.

Single plant with two leaves in water near shore, w. end.

Cambridge, Mass

1912
Oct. 9

I went over to Charles River Marsh this
noon for a short time - I wanted to see
if the *Baccharis* was in fruit. It is
not yet and I found the akenes still
soft and tightly enclosed in the involucre.
The marsh has a bare look as the plants
are more and more dying.

I collected a few plants noted before

x(38) *Cuscuta Gronovii* Willd

I took a fruiting specimen on *Baccharis
halimifolia* at the n. end.

x(47) *Baccharis halimifolia* L.

I took a specimen at n. end ♀. It is
approaching fruit, but see note above.

x(56) *Cichorium Intybus* L.

I took a flowering bit on marsh, n. end.

x(61) *Lactuca canadensis* L.

I found a plant at the n. end., very
large stemmed, with many branches at top
5 feet high & past fruit. I took a bit
for verification.

Cambridge, Mass.

1912
Oct. 10

In afternoon George & I walked down to the Charles River marsh and strolled out as far as the large gravel heap at the northeast end. Savannah Sparrows were flitting from one low cover to another and we saw a Field-sparrow Warbler in some birches. He was very nervously active, flitting about and nervously jerking his tail to & fro. We did not stay long.

- Plants previously observed -

X (114) *Pluchea campestris* (L.) DC.

I took a plant in pod fruit on the w side and saw several in the w. part.

New Species.

X 147 *Populus tremuloides* Michx.

In the northern part, directly on the marsh, near the large gravel dump on which nothing grows we discovered a few small trees of the Amer. Aspen and a number of shrubs close by. Near by grew some Gray Birch and I had not noticed them before. The largest ^{Amer. Aspen} was about ten feet high, with trunk two in. through some 4 feet above ground, (Oct. 20. The largest tree is 6 feet high, and 2.5 in. in diameter 2 1/2 ft. up. by measurement by me)

X 148 *Rhus typhina* L.

I found and took a small plant directly on the marsh in n. part. Saw a few others on w. side on filled land.

Trip to Milton, Mass.

1912
Oct. 13
(1)

The day has been very beautiful, clear & sunny for the most part and pleasantly cool.

Mr. Stephen Barber & I went to Milton (11.55 A.M. - 1.40 P.M.) to the Rachel-Reed House to visit Miss Mayerson on our semi-annual trip.

We were just in time for dinner and were warmly greeted by all - I met Miss Mayerson, Miss Deunant, Miss Flint, Miss Churchill (cousin of J.R. Churchill) who lives near the Lower Mills, Miss DuPuy of Paris, Pa. & one or two others. After a pleasant dinner, Miss Mayerson, Miss Deunant, and we two took our usual stroll in the Reservation. This time changing the great charm was in the colors in the trees, foliage, and the taller & the small shrubby vegetation. While the really brilliant colors were a week or two up, they were wonderfully beautiful to-day, more subdued as a rule, and yet in places in their greatest glory. The rich maroon of many shades of the oaks, the russet brown of others, the red, yellow & green intermixed of the maples, the yellow of the Sassafras of which there are a good many, the yellow of the birches (the gray birch) the red of the blueberry, and the many variegated patterns over ground, all combined to make a very beautiful effect.

We heard one robin and one Catbird, and Katydid. I saw one Blackpoll Warbler -

On our return we visited Miss Voss's lawn. Yucca xanthifolia has been so thrifolia very abundant, and where on May 19 last gone! I found the ground literally covered with seedlings.

Trip to Milton, Mass.

1912

Oct 13

(2)

To my surprise I found no trace of the plant. The ground formerly covered by the seedlings and last year by the full-grown plants is now covered with weeds of various kinds, grass is encroaching on the area, and very evidently the changed conditions have choked out the seedlings and the station is lost.

On reaching the house Mr. Thacher & I called on Mr. & Mrs. Marshall, who live opposite. Mrs. Marshall is a niece of the late author of *Tom Brown at Rugby*, Tom Hughes, and she has a splendid library formerly belonging to her great grandmother, Margaret Hughes, with whom Sir Walter Scott was very intimate. Many of the books were presented to her by Scott, who wrote his name with an inscription in them - I longed for more time.

After a pleasant supper we left our good friends and reached home by 9 o'clock.

Mr. Thacher took with him a very large bundle of brilliant foliage, and he took a pot of *Campanula* ~~edulis~~ ^{*gracilis*} ~~edulis~~ ^{*maritima*} that Mrs. Ingersoll had slipped for me from a plant of hers.

Cambridge, Mass

1912
Oct. 15

This morning I once more visited the Charles River marsh, this time to inspect the *Baccharis* and see whether it had at last set fruit. I went to the patch on the river border at the north end, and was much pleased to see that many of the involucrets had opened entirely and thrown off their ripe, winged akenes. Much ripe fruit was still clinging to the plant and many of the involucrets were not yet open.

- Plants observed before -

(90) *Cyperus ferox*

now in dead ripe fruit. Spikelets crumble from the sheath at the neck

(102) *Aster subulatus* Michx.

It has long been in fruit, but the akenes together with white pappus still remain, giving the large areas, covered with this plant, a whitened appearance

X (27) *Baccharis halimifolia* L.

In ripe fruit. 9 other specimens from the clump at the n. end, near the river -

I have visited the marsh this season 14 times -
July 17, 19, 20, Aug. 16, 27, 31; Sept. 12, 22, 25, 28; Oct. 5, 9, 10, 15.
[also Oct. 20, 27, 30. notations in all 17 times]

Cambridge, Mass.

1912
Oct. 20

This noon I strolled over to the Charles River north bank of the Stillman Infirmary. The sun was warm and pleasant, the air was clear and calm, a motor boat and a sail boat were gliding up stream and the scene was most attractive - the growing season is over and the late fruiting plants are rapidly discharging their seeds, or rather akenes for it is the Compositae and Cyperus that seem to be the last in the field. Taraxacum officinale and Sonchus oleraceus still linger in flower. Their flowering and fruiting period seems to end only with cold weather.

The dry spongy marshes are dry and soft to the feet - and I shall regret the time when the place becomes a park.

The encroachment of the weeds in large quantities and in a dense array is certainly killing the grass, as the condition of the marsh shows when the weed have been up and dried the surface.

x(1) *Typha latifolia* L.

I took for seed a single leaf from a patch in the river off the north cut. There was fruit earlier in the season, but it was taken and lost. Leaf 15 mm. broad by measurement when fresh.

x(47) *Baccharis halimifolia* L.

I took some fruit clinging to the open involucre of the clump. ^{Oct. 20/12} when I took a specimen Oct. 15.

149*

Polytrichum commune L. (7.18.9.9.11.12.13)

A mass of plants, 1 in. wide and a foot or more long in marsh next canal on bank of river, just above water, stream acid.

Cambridge, Mass.

1912
Oct. 27

This afternoon I strolled down to the
marsh by Charles River where I have been
so many times this season - I met
Emily Chapman and she accompanied me.
There is a decidedly fall aspect to the
place now and ^{the eye} but little signs of life
over the wide area. We kept in the
northern part and examined the vegetation
in part. *Baccharis halimifolia* has opened
its involucre and the ^{wings} awns have
either flown away or are clinging in an
indiscriminate white mass to the bushes.
The sun had set and the air was fresh
and cool. A motor boat skinned up the
river leaving a long wake behind which
caused small waves to break on the shore.
We mounted the pile of gravel dredged out
some years ago and watched the scene for
some time before returning home.

x(47) *Baccharis halimifolia* L.

I took a packet of fruit clippings to the
clump in the northern part where I took
a specimen on Oct 15.

Cambridge Mass.

1872
Oct. 30

This P.M. I spent the hour before sunset on the Charles River Marsh. It is a most beautiful hour when the sun, a ball of fire, hangs over Mt. Auburn tower and the vegetation has taken on a somber hue. I walked to the extreme southern end of the marsh to inspect a few plants.

^{None} ~~Scirpus~~ ^{was} ~~seen~~ ^{before} ~~Scirpus~~ ^{robustus Pursh.} ~~Scirpus~~ ^{var. Juncea (Bicknell) Bartlett} ~~Scirpus~~
Fruit falling off - I took a little dead ripe

Spartina patens (Ait.) Muhl

This species is the most abundant, covering large areas with a dense sward. It is low with very narrow leaves and quite upright spikes.

Spartina patens (Ait.) Muhl, var. *juncea* (Michx.) Hitchc.

This large form with spreading, much broader leaves and more spreading spikes, and stout roots & stalks is scattered, never in a mat, but a few plants here & there.

Helianthus lacticolorus Pers.

I visited the spot, extreme s. end, where this grew and found about 24 plants, most of them young. There was the remains of one flower that I left on Sept. 28. Only 2 plants flowered.

Typha latifolia L.

I found fruit, s. end, 7 spike 2.5 cm. in diam., leaves 18 mm. broad.

1912
Ann 30-Dec-4
(2)

lectures by Prof. Hugo De Vries.

Boston Evening Transcript
TELLS ABOUT PRIMROSES
Dec. 4 1912.
Professor DeVries Speaks at the Lowell
Institute About His Own Experiments

The lecture given last evening by Professor Hugo DeVries—his third—in his Lowell Institute course on "Evolution of Plants," was a pleasant ramble for an hour in his own garden attached to the University of Amsterdam. It was the story of his experiments with evening primroses, the work that has made him famous.

In a field on the edge of a forest this Dutch botanist one day found a very large number of evening primroses. These are yellow flowers, not related to the other primroses, which open in the early evening and remain open all night. In the field DeVries noticed some of the flowers distinctly different from the others and took them home for experimentation.

What he discovered through long years of investigation is that of the evening primrose of Lamarck (*O. Lamarckiana*) if the flowers be carefully pollinated so as to exclude outside mixtures and produce a pure race, ninety-eight plants from every hundred seeds will be regular, one a dwarf, and one a bending form. This proportion held true in years of experiment. The dwarf will breed true, and produce only dwarfs, but the bending one must be artificially pollinated, for its own pollen never ripens. Other varieties, mutations they are, have been observed and one, a giant, has appeared once only in all these years. It has been bred, but its like has not come again through nature. One or two other forms are likewise rare. This is evidence that Darwin's small gradations between species in their evolution one from another is an error, and that new forms are produced suddenly.

The photographs which Professor DeVries showed in abundance, presented every phase of the plant and garden.

In his university garden a large space is walled and roofed with wire netting. Within this are the beds, the different groups being separated. Various devices are used to prevent undesired kinds of pollination. Paper bags are placed over the spikes of flowers, and for some plants an insect-proof wire house is used. One part of the garden is roofed with glass but with ample ventilation, designed for the older plants whose roots strike five or six feet into the ground, and which need no other moisture.

Boston Evening Transcript
PLANTS AND THEIR ENVIRONMENT
Dec. 5 1912.
They Do Not Change with Shift in Location, Says Professor DeVries

Professor Hugo DeVries's final lecture in his Lowell Institute course was directed against the idea that environment has anything to do with the changes of form of plants. In the distribution of plants this has been used for an argument, but it proves to be untrue. What studied in large divisions of the world few plants are to be found outside the divisions to which they belong, although some are to be found in contiguous parts of two divisions and the study must be made both of large migrations and of the small ones. Some plants were shown on the screen with very small distribution, while others, like the sage bush, have wide distribution. The argument here turned rather to the suggestion that these plants are desert plants, not because they will not grow as well or better in moister climates, but because they are better suited to the places in which they live than the other plants. Environment will kill off plants to which it is not suited, but it does not affect those which can survive under the new conditions.

"The human species is older than its environment," said Professor DeVries, "for it existed before the glacial period, and the same is true of many plants and animals. The swamp cedar is an example of this kind. Its fossil remains show that it is practically unchanged, but at the same time it is living today under very different conditions and in the midst of a different flora, most of its ancient companions being now extinct. Life conditions, therefore, are not due to adaptation. Plants like other organisms live in the midst of a constant struggle, and their places are the ones that they can maintain rather than the ones ideally the most suited to them. The

desert plant which would do better in moister places is probably pushed out by other plants that can do better still in the moist places.

The water pest, a river weed, came into Europe from America seventy years ago. It is all over the Continent. It has merely adapted itself to new conditions, but is the same species. In the same way a salt weed which came to America from Europe is widely spread. Professor DeVries having observed it on the shores of the Great Salt Lake in Utah. The water hyacinth is another example. It came from South America to the South and has homed itself in the rivers so well that motor-boats and even large steamers cannot make their way through its tangled mass. It has not changed in the least. The flora of the Sahara Desert originated when the country was as fertile as any other portion of the world. The withholding of rain, which has probably been by slow stages, has caused the dying out of many kinds of plants, but it has not made any change in those that survive.

1912
Nov. 30-Dec 4
(1)

Four Lectures on Plant Evolution

given at the Lowell Institute
Boston, Nov. 30, Dec. 2, 3, 4, 1912

by
Professor Hugo DeVries

Boston Evening Transcript
Dec. 2, 1912

DARWIN AND DE VRIES

Dutch Naturalist at Lowell Lecture Says They Differ in Only One Point—Tells How He Makes New Kinds of Flowers and Doubles Single Ones

The opening paragraphs in his Lowell Institute lecture, the first one of his course, were to explain the difference between the views of Darwin on evolution and his own. Here his attitude was far different from those who have in recent years expressed little respect for the views of the great English naturalist. "In the main points," he said, "there is no difference between us at all. Darwin believed that species were evolved one from another by small changes. The observations that I have been able to make point to sudden establishment of new species." This was the text of the lecture and its illustrations, and the suggestion was made that botanical species are usually not pure. When this is the case there is constant tendency for one or another of the elements to gain the ascendancy and dominate the species.

There was quite a bit about Darwin in the farther part of the lecture which showed why some of his ideas established themselves. He was a great collector of facts, but did not collect specimens. There are known today many facts that were not known to him and his study was in considerable part in the voyage of the Beagle, that of islands at various distances from a coast. He found that species always had relatives on neighboring islands or the mainland. From this he established his relations of the species. He studied races and species and found that the limits between species are arbitrary; there is no such distinction in nature.

The speaker outlined the earlier condition of the farmer, who, finding good wheat in his crop, selected the best for planting the next year. It has been possible to improve the grain to an extent and after ten or perhaps twenty years a permanent change may be made. This was a tedious process, but it was about as far as agriculture had gone. In horticulture a similar process was possible in shorter time—four or five years. Today in the study of the matter, pure strains are possible—which Darwin did not know about.

The speaker then turned to the experiments of Nielsen, a Swede, who found that the slow Darwinian evolution did not suit the facts, and a new explanation was necessary. He pursued the general idea of agricultural selection of seeds, but used closer observation and brought the microscope into requisition so that selected seeds might

even have the same botanical markings. He found in doing this that it was the plant with the single ear that must be used to seed from in the future development of pure species. The usual ear from a group has fruit many times and the production of pure strains consists of eliminating minor ones. It is evident that what are called species in nature may consist of mixtures of many species. How this originated is not yet known, but the fact is well established.

DeVries took the matter up next and in his garden has carried on the experiments that have made his the world's authority in what naturalists term "mutations." Much of the lecture was devoted to an outlining of his own work, which, as he expressed it, was to see species originate under his eyes. The first story was about the toadflax. This in general is a flower having two flaps or jaws, within which the bee must pass to get at the honey in a deep "lower" spur, and in doing which he pollinates the flower. It was known to Linnaeus that in the neighborhood of Upsala a close variety originated. Every eight or ten years some such observation was made elsewhere, and on these occasions there came suddenly into prominence a form of flower which normally was known only once in five to ten thousand flowers. It was seen thus in Germany and in Holland. It was this phenomenon that DeVries set out to repeat in his garden. The flowers are very different in appearance. One and the two lips, between which insects could easily pass, while the other was a closed form which was impossible to them. For eight years the Dutch investigator worked, when there came a form in his group of the "closed flowers" and this was not by intergradations but at once, and it is permanent.

A second experiment was with twisted plants. In various kinds, pansies and teasels, among them, there come occasionally forms that are twisted. The leaves that may normally be disposed at regular intervals, single or in groups, may combine to form a continuous spiral fringe about the stem. DeVries set out to make a twisted snapdragon. He selected this kind of plant because there is known to be some relationship between monstrosities. His results were successful. Other plants, like the teasels, he has cultivated with the same peculiarity. He now makes lilies with the petals twisted about the stem.

An interesting story was the making of a double marigold. It alone of the chrysanthemums has remained single. It was a work of four to six years in the selection of the proper flowers and from a normal in the beginning of twenty years the double flower has been produced with a constant number of more than two hundred petals. Much of this story dealt with the way in which the new petals come out, the stamens changing to petals in certain of the flowers.

The lecture of Monday afternoon will take up horticultural variations and will come to his own work in the significance of mutations for the origin of species.

WORLD DOOMED TO STARVE

Boston Evening Transcript
Professor DeVries in Lowell Lecture Says This Will Happen Unless Agriculture Can Save It—Population Will Overtake Food Supply Dec. 3, 1912.

The importance of botanical researches of the kind in which he has made a name for himself was shown last evening by Professor Hugo DeVries in his second Lowell Institute lecture on "The Evolution of Plants." The future of the human race," he said, "will depend upon new foodstuffs for those now known will not suffice to support it." He stated that the increase in population, if continued at its present rate, would more than overtake the increase in food production at its present rate, and the time in which starvation might come is not very far away, a century or two, perhaps. There would under those circumstances be really a struggle for life. The resources of the earth are being quickly consumed, coal is almost exhausted, the forests are fast disappearing and agricultural work, if it is to save the day, must be greatly improved.

In the United States about one-quarter of the soil is under cultivation, and for the rest there are the difficulties of deserts and of irrigation. "If it were possible to grow things in the desert world," said the speaker, "it would be very desirable. At any rate, it is the agriculture that is in the foreground of public needs."

Hybridizing is a means of getting desirable qualities scattered through different species assembled in one race. The best of horticulturalists apply this principle. But in selection there is a comparatively small number of factors with which to make improvements, and in hybridizing there are a small number of known qualities to assemble, so that one can realize that there is a comparatively near limit to improvement due to either or both these methods. Future populations may demand all that both means have to offer. It is not to the point to argue that two or three hundred years is a long way ahead and is not our concern. It is the duty of science to foresee necessities and provide means of satisfying them. It is the duty of the present dweller on the earth to direct his eyes upon what nature has done and what it is doing and to try to duplicate this work.

The speaker suggested that the leaps in species, termed mutations, must be studied so that by the will of man and the forces that he may control, he may be able to induce such mutations. This has been done already, it is true, but only in a few lines. Progress is made in many lines, and there is hope in these for the future.

The final discussion of the day was of the four-leaved clover, or, rather, its allies, for it is indeed not normal and will not propagate itself. The real normal change here is to the five-leaved plant, which in its turn by various divisions of its leaflets may be a six, seven or even a ten-leaved plant.

Thirtieth Meeting, November 12-14, 1912

Boston Evening Transcript, Nov. 16, 1912.

Bird Welfare- Workers in Session

Some Notes of the A. O. U. Congress at
Cambridge

BY WINTHROP PACKARD

THIS week surely the Cambridge birds, such at least as modern progress has left us, should have sung their best songs in jubilant chorus, for the best friends they have among men were assembled in the University City. The American Ornithologists' Union held its thirtieth stated meeting there, converging several hundred strong from all parts of the Union and making a week of it. Daily there was poured forth upon the members, their associates and friends, such wit and wisdom of bird lore as has been accumulated by the enthusiastic students of bird life during the past year, the store appealing to the eye as well as to the ear, for the stereopticon did its share in making the matter instructive and interesting.

Ornithologists of more than national prominence related results of explorations and investigations, such as Frank M. Chapman, curator of the Museum of Natural History at New York, editor of Bird Lore and author of many standard bird books; Edward Howe Forbush, State ornithologist of Massachusetts, widely known as a lecturer on the economic value of bird life and the author of several scientific works on the subject; A. C. Bent, secretary of the Bristol County Academy of Sciences, to whom has been entrusted by the National Government the completion of the monumental work on "Life Histories of North American Birds," which was begun by Captain Bendire; Dr. George W. Field, biologist and lecturer, chairman of the Massachusetts Fish and Game Commission; Herbert K. Job of East Haven, Conn., author and lecturer on birds; Professor C. F. Hodge of Worcester, naturalist and author; T. Gilbert Pearson of New York city, secretary of the National Association of Audubon Societies, and a host of others of fame as ornithologists, not forgetting a number of women bird lovers whose names had equal prominence on the programme.

Most of the papers were either earnest discussions of scientific topics or of some phase of welfare work for birds. Job spoke of the propagation and restoration of American wild fowl. Dr. Field described and illustrated the present status of the health hen. Chapman pictured his investigations into the bird life of Colombia, South America. Bent and Dr. Charles W. Townsend of Boston gave notes on Labrador and the birds found in their explorations there. Forbush described and pictured his recent investigations into the condition of the bobolink in the South. The Okefenokee Swamp in southern Georgia had been biologically investigated, and the investigators told about it, with maps and lantern slides. Pearson described the present breeding range of the much slaughtered white egret of the United States. And so it went. The Western Hemisphere has been pretty well investigated by these scientists, so far as its bird life is concerned, during the past year, and they put the results of their investigations into the critical tests of scrutiny and discussion by their brother scientists.

Of equal, perhaps even greater, interest to laymen were other papers on simpler phases of the bird question, such as "Queer Nesting Sites of the House Wren," "The Nest Life of the Sparrow Hawk," and especially one on "Concealing Action of the Bittern," which savors as much of hocus-pocus as it does of science, and which I am minded to relate, though I cannot put it as well as did the observer, Professor Walter Barrows of East Lansing, Mich.

The narrator told of a bittern, *Botaurus lentiginosus*, which lighted in the shallows of a reed-margined pond of small area and forthwith and on the spot disappeared. Though he and another man made a complete circuit of the pond, looking with all their eyes for this two-foot long bird which had been seen to alight in it, the bittern they could not see. As they were about to give up the search he suddenly materialized in just about the spot where he had been seen to alight but where they had previously looked for him in vain. The explanation of this, as given by the narrator, was the habit of the bittern, well known to ornithologists, of, when alighting in a new place, where it might lurk suddenly turning itself into the semblance of a gray, upright stake. The bird stands stiffly erect, its feathers drawn in to its body, its bill pointing to the sky, and its gray-brown plumage harmonizing perfectly with any reeds or stumps among which it has alighted. That is, the bittern "froze," as they say, and was not to be distinguished among the reeds which it somewhat resembled.

But that's not the story. If it were it probably would not have been told. After they saw the bittern he continued stiff and erect, and while the water was calm and unrippled, still motionless. But when the wind blew and swayed the reeds this bittern, with a finesse quite astonishing, swayed with the reeds, making himself an impersonal part of their lifelessness, which almost had the effect of erasing him from the view of the watchers even while their eyes were fixed on him. To the mere layman in ornithological matters this story brought a brief breathless silence, but another observer hastened to confirm with testimony of having seen another bittern to a far distant State do something much like this one of Michigan and the tension was relieved. There was some discussion as to whether the bittern in this instance was not swayed by the same wind that swayed the reeds, but it was finally decided that he acted with intentional cunning to promote his concealment.

Another rather interesting adventure in local bird observation told how the antics of a moving picture concern brought flocks of hitherto unheard of shore birds to a York State pond some hundreds of miles inland—that is, shore birds hitherto unheard of in that locality. The biograph people rehearsed a tragedy. They had the lover and the lady drowned in the lake. Then they had the search for the bodies, the draining of the lake and the finding of stuffed dummies in the mud of the bottom. All very realistic and amusing for the jaded frequenters of the moving picture theatres, without doubt. But see how little we know what is going on in the air over our heads while we rehearse tragedies and drain hitherto undrained ponds. The mud of the pond bottom was no sooner bare than flocks of shore birds began to drop in from the sky. There were knots, red-backed sandpeps, silties and sandpeeps, and turnstones, and the bird lovers of the neighborhood had a treat that they would have had to so at least

three hundred miles, to Coney Island or the Jersey coast for, if there had been no moving picture concern. As Mrs. Wiggs used to say, "We never know which way happiness is coming."

The paper on the work of the Bird Banding Association brought out some interesting stories, too. This association undertakes to put on the legs of as many birds

as possible a light, aluminum band, bearing a number and a request to report to The Auk, which is the organ of the A. O. U., if the bird is recaptured. Usually birds that are just maturing are taken from the nest before they can fly and thus banded. The bird is then returned to the nest and forgets the band, but for all its life carries with it an identification mark which is recorded in the annals of the association. This work has been carried on in a large way on the continent of Europe for many years, and has greatly extended the knowledge of the migration routes of various birds. Last year 11,400 of these bands were put on birds in England alone. In America, since the work was begun, only 2,900 have been used, but the association is planning to greatly increase this. Eight hundred birds were banded last year.

As yet no results of great importance have resulted from this work, but some interesting things have happened. Ernest Harold Baynes, general manager of the famous Meriden Bird Club of Meriden, N. H., two years ago one June day found a chimney swift in his front room, the bird having come from its nest down chimney instead of up. He promptly banded it and sent it up chimney again. A year and eight days afterward he again found a chimney swift fluttering about the same room. He caught it and examined the leg. There, sure enough, was the aluminum band with the number on it, 6326, proving beyond a doubt that this was the same bird that had visited him a little over a year before. Enough records of this sort will prove beyond a peradventure what we already think we know: that the same good old chimney swifts come back to the same good old chimneys to nest year after year. So, eventually it will be proved—or disproved—of other birds by this banding method.

One great work of the A. O. U. is the Check-List of North American Birds, in which it takes care to correctly scientifically name every species of bird that is found, even casually, within the limits of the continent. It gives as well the common names at the range of each species and sub-species and is the last authority on such matters.

These are a few of the multiple activities of the A. O. U. It scientifically examines the bird life of the continent each year, classifying, tabulating and naming. It studies the migrating, nesting and other habits of the birds of the continent, bands them, photographs them, makes millions of field notes and publishes the more important of them, and works patiently for scientific and friendly knowledge of bird life, doing a work which is really of great economic importance to its own extent. And once a year the members meet for a congress in some city. Boston was favored this year, in that the conference was held practically within its limits, at the University Museum at Cambridge, and the general public were invited and did not fail to respond.

Cambridge is a particularly fitting place for a big meet of the American Ornithologists' Union, for the club out of which the union grew was born there more than a generation ago. The Nuttall Ornithological Club originally consisted of a few bird lovers, enthusiasts of Cambridge and Boston, many of whose names have since become familiar the world over to all who pay even casual attention to American ornithology. It began as an informal affair, with an active membership of less than twenty, but it soon became organized, and as time passed began publishing the Quarterly Bulletin of the Nuttall Club, the influence of which in matters ornithological became great throughout the country, and indeed far beyond its borders. The corresponding members of the club included all

American ornithologists of note, and through their cooperation the club was able to concentrate the ornithological interests of the country, the Quarterly proving not only a strong bond of union, but also an indispensable medium of communication.

That was way back in the dark ages of the eighteen hundred and seventies and the early eighties. In September of 1883 a meeting of the ornithologists of the country was held in New York and amid much enthusiasm the little but powerful Nuttall Club of Cambridge was merged in the larger and still more influential American Ornithologists' Union, a national, indeed an international, organization to which it transferred its prestige and its quarterly journal, which thus became *The Auk*. With the vigor of youth the union went at its work immediately and mapped out extensive programmes for various committees which took them up enthusiastically. As it had organized and unified the ornithological interests of the country, so it set about organizing and unifying the work of those interests. For a dozen years the bird students of the country had been actively and enthusiastically at work, studying birds, finding and naming new species, writing and publishing books on ornithology, with a resulting great increase in knowledge and nomenclature and a somewhat dire confusion of both. Scientific nomenclature, which is supposed to be a crystallization of knowledge into definite and accepted form, was instead a sad mixture of incoherences. There were two check lists of North American birds of equal prominence and of embarrassing divergence of statement, and it was felt that the best authorities should get together and reduce this chaotic condition to a more perfect order. Indeed, it was on this nucleus more than any other that the union itself crystallized.

The work assigned the committee which had this in charge required the consideration not only of what birds should be admitted as North American, but their sequence and relative rank—scientifically, of course—and their correct scientific names, rules of nomenclature as well as status and relations of groups. It was a task of immense labor and one in which personal interests and bias had often to be sacrificed for the rightness of the final outcome. In two years and six months there was before the public an octavo volume of about 400 pages, containing first a code of nomenclature and second a check-list of North American birds, including their range, and the authorities for the names adopted. This list was immediately ac-

cepted as the standard authority with all American writers on birds. With revision and addition it has stood ever since and is considered the final authority the world over. Such good work for science grew so soon out of the little Nuttall Club, which was born in Cambridge.

Many other activities were begun at that original meeting which have since borne good results. A committee on avian anatomy was appointed and that good work is still done by the union in avian anatomy was proven at the recent meeting when Mr. Hubert Lyman Clark of Cambridge told in clear-cut phrasology, which was equally as clear to the novice as to the scientist, how he had examined the anatomical structure of the South American bird known to American ornithologists as the Panama thrush-warbler and to the English as the rose-breasted wren, and proved that the bird was neither a thrush, warbler nor wren, but must by rights be considered as nearest the tanagers.

There was a committee on the status of the European house sparrow, which has since presented a thorough report, an important publication which has since served

as a guide to legislation and a useful exposition of a grievous pest.

The committee on the geographical distribution of North American birds which was appointed at this first meeting was subsequently merged with the committee on the migration of North American birds under the chairmanship of the famous Dr. C. Hart Merriam. An enormous work was immediately taken up by this committee, its division of economic ornithology carrying on extensive researches into the food of our wild birds. This work was so great and of such obvious national value that it was taken over by the National Government and has since become the Biological Survey, an important branch of the United States Department of Agriculture.

At the second congress of the Union a committee was appointed on protection of North American birds, a work humanitarian and utilitarian rather than scientific. This committee undertook to enlighten public opinion in respect to the extent of the destruction of birds, especially for millinery purposes, and the lamentable results. This great work for the general good was immediately taken up and has been carried forward ever since, though like that of the division of economic ornithology it has since passed from the direct control of the A. O. U. This work has since spread throughout the country in the Audubon Societies which are now doing such splendid welfare work for birds in almost every State in the Union. Thus besides the present strong and vigorous A. O. U. child of the original Nuttall Club of Cambridge, we have these mighty grandchildren, the Biological Survey, and the Audubon Societies. The study of birds in this country from a scientific, utilitarian and aesthetic point of view, now so universal the continent over, had its first conscious origin in the little Nuttall Club, which was to later merge in the organization whose thirtieth annual congress has just closed at Cambridge. It has been a great power for good already and its work, especially the branches pertaining to the utilitarian and humanitarian side of the movement, is still only just begun.

